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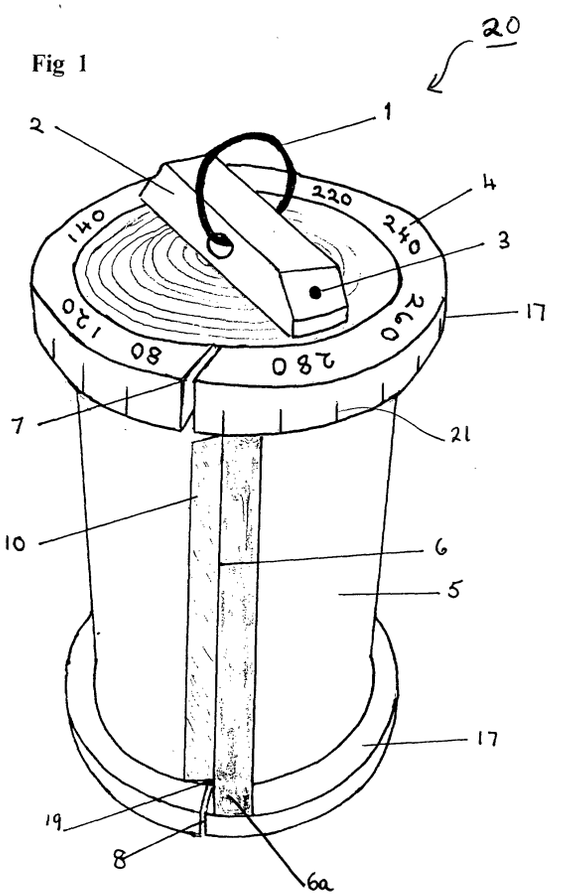
(54) Dispenser for abrasive paper

(57) A dispenser (20) for dispensing abrasive paper from a roll can be held in a user's hand. The dispenser has a body (5) for receiving a roll of abrasive paper, and the body has an aperture (19) to allow a free end (10) of a roll of abrasive paper to pass out of the body (5). The aperture (19) is normally open and a user can close the aperture thereby to trap abrasive paper.

The body (5) is spring-loaded so as to bias the aperture (19) towards its open position. A user can close the aperture by applying pressure to the body.

A tearing edge 6 for tearing a desired length of abrasive paper from a roll is provided. The tearing edge (6) is preferably spaced from the aperture (19) so that after a piece of abrasive paper is torn from the roll the new free end of the roll protrudes from the dispenser.

Fig 1



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Description

[0001] The present invention relates to a dispenser, that may be held in a hand of a user, for dispensing abrasive paper from a roll.

[0002] Abrasive paper such as, for example, sandpaper, is used for rubbing down and preparing surfaces in many applications, such as marine, domestic or industrial use. Abrasive paper such as sandpaper is often sold in rolls of up to 25 metres, and this presents a number of problems for a user.

[0003] Firstly, it is necessary to detach a piece of abrasive paper from the roll in order to use it. Abrasive papers generally consist of abrasive particles, such as grit, attached to one side of a backing sheet using, for example, a suitable adhesive. It is not possible to cut abrasive paper using a knife or a pair of scissors, since the abrasive particles will quickly blunt the knife blade or the scissors. It is therefore conventional for a user to detach a working length of abrasive paper from a roll by tearing it off. However, this is wasteful because it is very difficult to make a tear that is perpendicular to the length of the roll. Tearing a piece of abrasive paper from a roll normally results in the abrasive paper tearing at an angle of around 45° to the length of the roll, whereas a user generally desires a piece of abrasive paper that is approximately rectangular.

[0004] A further problem is that a roll of abrasive paper tends to unroll and be blown around if there is any wind. If the abrasive face of the paper is blown against the surface being worked on this can lead to damage of the surface. Furthermore, when the sandpaper is being used in a marine environment it is possible for the roll to be blown into the sea and be ruined. It is therefore normal practice to place some form of tie around the roll of sandpaper to prevent it unravelling, but this is inconvenient since it is necessary to remove the tie every time it is desired to detach a further working length from the roll. Furthermore, this will not prevent the roll from being blown about in very strong winds.

[0005] Abrasive paper must be kept dry, since it is rendered useless if it becomes saturated with water. This means that a roll of abrasive paper that is exposed to bad weather is normally completely ruined within a few minutes.

[0006] A final problem is that it is difficult to use a roll of abrasive paper when working above ground level, for example on a raised platform, or scaffolding.

[0007] The present invention provides a hand-holdable dispenser for dispensing abrasive paper from a roll. A dispenser of the invention overcomes many of the disadvantages of a loose roll of abrasive paper.

[0008] In a preferred embodiment the dispenser comprises: a body for receiving a roll of abrasive paper, the body having an aperture to allow one end of a roll of sandpaper to pass out of the body; wherein the aperture is normally open to allow one end of a roll of abrasive paper to pass of the body and wherein a user can close the aperture thereby to trap abrasive paper. The ability for a user to trap the abrasive paper when tearing a portion of abrasive paper off the roll makes it easier to tear the paper at approximately a right angle to the length of the roll.

[0009] In a preferred embodiment the body is spring-loaded so as to bias the aperture towards its open position and application of pressure to the body closes the aperture. A user is able to close the aperture so as to trap paper simply by applying pressure to the body of the dispenser, and releasing the pressure causes the aperture to open.

[0010] In a preferred embodiment the dispenser further comprising a tearing edge for tearing a desired length of abrasive paper from a roll. Compared to using a knife blade or other sharp edge that cuts the abrasive paper, a tearing edge will not go blunt and does not present a safety hazard.

[0011] In a preferred embodiment the tearing edge is spaced from the aperture in the body. It may be located approximately 1cm from the aperture. Thus once a portion of abrasive paper has been torn off the roll, the new free end of the roll will protrude from the body of the dispenser.

[0012] In a preferred embodiment the body is adapted to substantially enclose a roll of abrasive paper. This provides the greatest protection against the weather.

[0013] In a preferred embodiment the dispenser further comprises an indicator for indicating a grade of abrasive paper. This informs a user which grade of sandpaper is contained in the dispenser.

[0014] In a preferred embodiment the body comprises a transparent portion. This allows a user to see how much abrasive paper is left in the dispenser.

[0015] In a preferred embodiment the dispenser further comprises a measuring means for measuring a length of abrasive paper extracted from the body.

[0016] Preferred embodiments of the present invention will now be described by way of illustrative example with reference to the accompanying figures in which:

Figure 1 is a perspective view of a dispenser according to an embodiment of the present invention;

Figure 2 shows the end caps of the dispenser of Figure 1;

Figure 3 is a perspective exploded view of the dispenser of Figure 1;

Figure 4 illustrates the dispenser of Figure 1 being loaded with a roll of sandpaper;

Figure 5 is a perspective view of a cover plate for the dispenser of Figure 1; and

Figure 6 is a schematic illustration of the spring-loaded nature of the body of the dispenser of Figure

1.

[0017] Figure 1 is a general perspective view of a dispenser 20 according to the present invention. The invention will be described with reference to a dispenser for sandpaper, but the dispenser is not limited to use with sandpaper and may be used for other types of abrasive paper.

[0018] The dispenser contains a body for receiving a roll of sand paper, and in the embodiment of Figure 1 this body is formed by a main body portion 5 and upper and lower end caps 2, 13. The body of the dispenser preferably encloses a roll of sandpaper to the maximum extent possible, so as to provide the greatest protection against bad weather.

[0019] It is preferable that at least part of the body of the dispenser is transparent, so that a user can see how much sand paper is left in the dispenser. In the embodiment of Figure 1, the upper cap 2 is transparent, but one or more other components of the body could be transparent instead of or in addition to the upper cap 2.

[0020] The internal cross-section of the main body portion 5 is preferably chosen to be circular, to complement the shape of a roll of sandpaper. In principle, however, the main body 5 could have a cross section that is not circular.

[0021] The main body portion 5 is provided with an aperture 19, which is dimensioned so that the free end of a roll of sandpaper within the dispenser is able to pass through the aperture 19 to the exterior of the dispenser. In the embodiment of Figure 1, the aperture 19 is a slot that extends over the entire height of the main body 5. The width, in the circumferential direction of the main body portion 5, of the aperture 19 is preferably kept as low as possible to minimise the risk of water entering through the aperture, while being sufficiently large that sandpaper can be easily extracted from the dispenser. The aperture 19 is normally open but can be closed by a user as will be described below.

[0022] In the embodiment shown in Figures 1-6 the main body portion 5 is naturally spring-loaded. In the embodiment of Figures 1-6 this spring-loading is achieved through the upper and lower collars 17. These collars are secured to the main body 5, for example using a suitable adhesive. The size, shape and material of the collars 17 are selected so that the effect of securing the collars 17 to the main body 5 is to spring-load the main body 5 so that the slot 19 is normally open. Alternatively, the main body portion could be made so as to be naturally spring-loaded.

[0023] As is shown in the figures, the upper and lower collars 17 are not complete annulae. Each of the collars is provided with a slot 8, and the collars are secured to the main body 5 so that the slots 8 in the collars are aligned with the aperture 19 in the main body 5. This means that the slots 8 in the collars 17 can close up when pressure is applied to the main body 5 or to the collars, thereby allowing a user to close the slot 19 by applying pressure to the main body portion 5 or to the upper or lower collar 17.

[0024] The upper and lower caps 2, 13 are connected by means of a spindle 12. In this embodiment, the spindle 12 is integral with the lower cap 13, and is provided with a screw threaded portion 11 at the end away from the bottom cap 13. The upper cap 2 is provided with a complementary threaded hole 1 1a, so that the upper cap 2 can be simply screwed on to the spindle 12.

[0025] The lower cap 13 is provided with a retaining lip 14 that locates in a groove 9 provided in the lower collar 17. As shown in Figure 3, the spindle 12 is inserted into the body of the dispenser from below, until the lip 14 on the lower cap 13 engages in the groove 9 provided on the lower collar 17. The upper cap 2 may be then screwed onto the threaded portion 11 of the spindle 12.

[0026] The outside diameter D_1 of the main portion of the lower cap 13 is made slightly smaller than the inside diameter, when no pressure is applied, of the lower collar 17. Similarly, the diameter of the upper cap 2 is made slightly smaller than the inside diameter, when no pressure is applied by a user, of the upper collar 17. This means that when a user applies pressure to the main body 5 or to the upper or lower collar 17, the upper and lower caps 2, 13 do not prevent the collars from closing up so as to close up the slots 8.

[0027] Figure 4 illustrates a roll of sandpaper being loaded into the dispenser from the top, with the upper 2 removed. The lower cap 13 and spindle 12 may be in position while this is done, or they may be put in position after the roll of sandpaper has been loaded into the dispenser. The upper cap 2 is then screwed onto the threaded end 11 of the spindle 12.

[0028] A further consequence of making the diameter of the upper cap lower than the inside diameter of the upper collar and of making the diameter of the lower cap 13 smaller than the inside diameter of the lower collar 17 is that it is impossible to damage the screw thread 11 of the spindle by over-tightening. As the upper cap is screwed onto the spindle, once the torque that is applied to the spindle during the process of screwing the upper cap onto the spindle exceeds the frictional torque that is applied to the bottom cap 13 by the user, the spindle and lower cap will start to turn.

[0029] Abrasive paper comes in a number of different grades, from coarse to fine. If the wrong grade of paper is used it is possible to damage the surface being worked on. In a preferred embodiment, therefore, the dispenser is provided with an indicator for indicating the grade of sandpaper contained therein. In the embodiment of Figure 1, this indicator is provided by placing markers indicative of a type of sandpaper on the dispenser. In the embodiment of Figure 1 the markers are numbers (80, 120, 140... 280) that indicate a grade of sandpaper, and are placed on the upper face of the upper collar 17. The upper cap 2 is provided with a marker 3. In the embodiment of Figure 1 the marker 3 is integral with the upper cap 2 and, when a roll of sandpaper has

been loaded into the dispenser, the upper cap 2 can be rotated until the marker 3 is adjacent the number indicating the grade of abrasive paper that has been loaded into the dispenser.

[0030] The external diameter of the body portion 5 is chosen to fit conveniently in a person's hand. This enables the user to hold the main body portion 5 in one hand, and apply pressure to the main body portion by slightly closing that hand, so as to cause the aperture 19 to close.

[0031] In operation, the user would hold the dispenser in one hand, normally by holding the main body portion 5. Using their other hand, the user would then pull out the free end 10 of the roll of abrasive paper, to a desired length. The user would then apply pressure to the main body portion of the dispenser 5 to close the aperture 19 thereby trapping the abrasive paper in the closed aperture. The user can then tear the portion of the abrasive paper that has been withdrawn from the dispenser, against a tearing edge 6 provided on the exterior of the dispenser. Because the abrasive paper is trapped in the closed aperture during the tearing operation, it is possible to achieve a tear that is substantially at 90° to the roll of the paper, so that waste of the abrasive paper is greatly eliminated.

[0032] In principle, it would be possible to eliminate the tearing edge 6, and simply tear the sandpaper against the edge of the main body portion 5 adjacent the aperture 19. This would however, have the disadvantage that the torn off edge of the roll of sandpaper would not then protrude from the body of the dispenser. It would therefore be difficult for the user to withdraw more sandpaper from the dispenser.

[0033] In the dispenser shown in Figures 1 to 6, the tearing edge 6 is not located immediately adjacent the aperture, but is spaced from the aperture. Thus, after the extracted portion of the roll has been torn off against the tearing edge 6, the new free end of the roll of abrasive paper will protrude from the body of the dispenser, by an amount equal to the separation between the tearing edge 6 and the main body portion 5, as shown schematically in Figure 1. When the user next desires to withdraw more sandpaper from the dispenser, it is straightforward for them to grasp the protruding free end of the roll of sandpaper. It has been found that placing the tearing edge 6 approximately 1cm from the main body 5 is convenient, since this results in 1cm of abrasive paper protruding from the body portion 5 after the tearing operation. A user is easily able to grasp hold of this.

[0034] The dispenser is preferably provided with a carrying eye 1, for example attached to an aperture 1a in the upper cap 2. A user is able to attach the dispenser to, for example, their belt, when they do not require to use the dispenser, and this allows them to have both hands free. When the user desires to extract more sandpaper from the dispenser, they simply unfasten clip the dispenser from their belt, and tear off a piece of sandpaper in the manner described above. Alternatively, it may be possible for a user to tear off a piece of sandpaper from the roll while the dispenser is still fastened to their belt.

[0035] In the embodiment shown in the figures, the tearing edge 6 is provided by, for example, one comer edge of a bar 6a that is attached to the main body 5 adjacent one edge of the aperture 19. The bar may be metallic or of a hard-wearing plastics material. The tearing edge 6 does not need to be a knife-edge and can be made relatively blunt. This means that the user will not cut themselves if they rub part of their body against the tearing edge 6, so that a dispenser of the invention is safe to use. Furthermore, the tearing edge will not be abraded significantly, particularly if the roll of abrasive paper is loaded into the dispenser so that it is the smooth backing surface which makes contact with tearing edge 6. This means that the tearing edge 6 will last for a long while without needing attention. The disadvantages involved with cutting abrasive paper using a knife edge or scissors are therefore avoided.

[0036] When sandpaper is pulled out of the dispenser, the abrasive side of the paper may abrade one edge of the aperture 19. For example, if the roll of sandpaper has been loaded with its the abrasive side inwards, as shown in Figure 4, then it is possible that the edge 19a of the aperture will be abraded as sandpaper is pulled out of the dispenser. To prevent this, a suitable cover 18 can be placed over the edge 19a of the aperture. For example, a cover having a U-shape cross section can be placed over the edge 19a of the main body. The cover 18 may be fastened to the main body, for example using a suitable adhesive, or it may be designed to be a clip-fit onto the main body. The cover member 18 is omitted from Figure 6, for clarity of explanation, but is shown on the dispenser in Figures 3 and 4. The cover 18 may be metallic, or it may be made of a hard-wearing plastics material.

[0037] Figure 6 illustrates the sprung-loaded nature of the dispenser body. This figure schematically illustrates how the slot 8 in the upper collar 17 may be broadened by inserting a suitable implement, for example such as a pen 16. This tends to cause the slot 8 in the lower collar to close up.

[0038] It is preferable for the dispenser 20 to be provided with an indicator for indicating to the user how much sandpaper has been withdrawn from the dispenser. This enables the user to tear off the desired amount, and avoids waste of the abrasive paper. This is of particular benefit if a specific length of abrasive paper is required, for example for insertion into a sanding machine.

[0039] In the embodiment of Figure 1, a series of measuring marks 21 are provided on the outside face of the upper collar 17, spaced at, for example, intervals of 1cm. A user is able to measure the length of sandpaper extracted from the dispenser against the marks 21. The measuring marks 21 could alternatively be provided on the main body 5 or on the lower collar 17 instead of,

or in addition to, on the upper collar 21.

[0040] The components of a dispenser may be made from any suitable material. Most, if not all, components can be made from durable plastics materials, for example by injection moulding.

Claims

1. A hand-holdable dispenser for dispensing abrasive paper from a roll.

2. A dispenser as claimed in claim 1 and comprising: a body for receiving a roll of abrasive paper, the body having an aperture to allow one end of a roll of sandpaper to pass out of the body; wherein the aperture is normally open to allow a free end of a roll of abrasive paper to pass out of the body and wherein a user can close the aperture thereby to trap abrasive paper.

3. A dispenser as claimed in claim 2 wherein the body is spring-loaded so as to bias the aperture towards its open position and application of pressure to the body closes the aperture.

4. A dispenser as claimed in any preceding claim and further comprising a tearing edge for tearing a desired length of abrasive paper from a roll.

5. A dispenser as claimed in claim 4 wherein the tearing edge is not located immediately adjacent the aperture in the body.

6. A dispenser as claimed in claim 5 wherein the tearing edge is located approximately 1cm from the aperture.

7. A dispenser as claimed in any preceding claim wherein the body is adapted to substantially enclose a roll of abrasive paper.

8. A dispenser as claimed in any preceding claim and further comprising an indicator for indicating a grade of abrasive paper.

9. A dispenser as claimed in any preceding claim wherein the body comprises a transparent portion.

10. A dispenser as claimed in any preceding claim and further comprising a measuring means for measuring a length of abrasive paper extracted from the body.

Fig 1

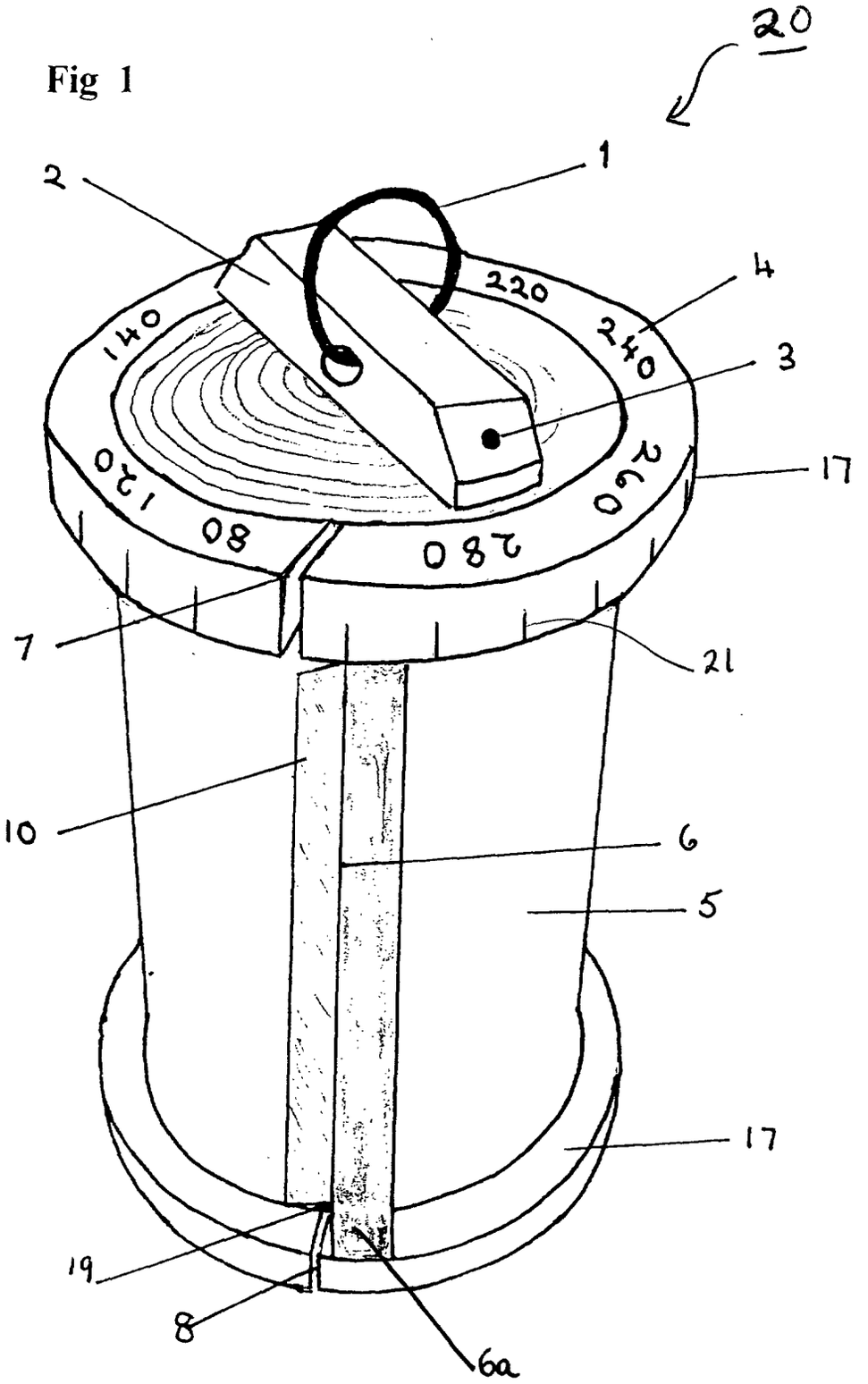


Fig 2

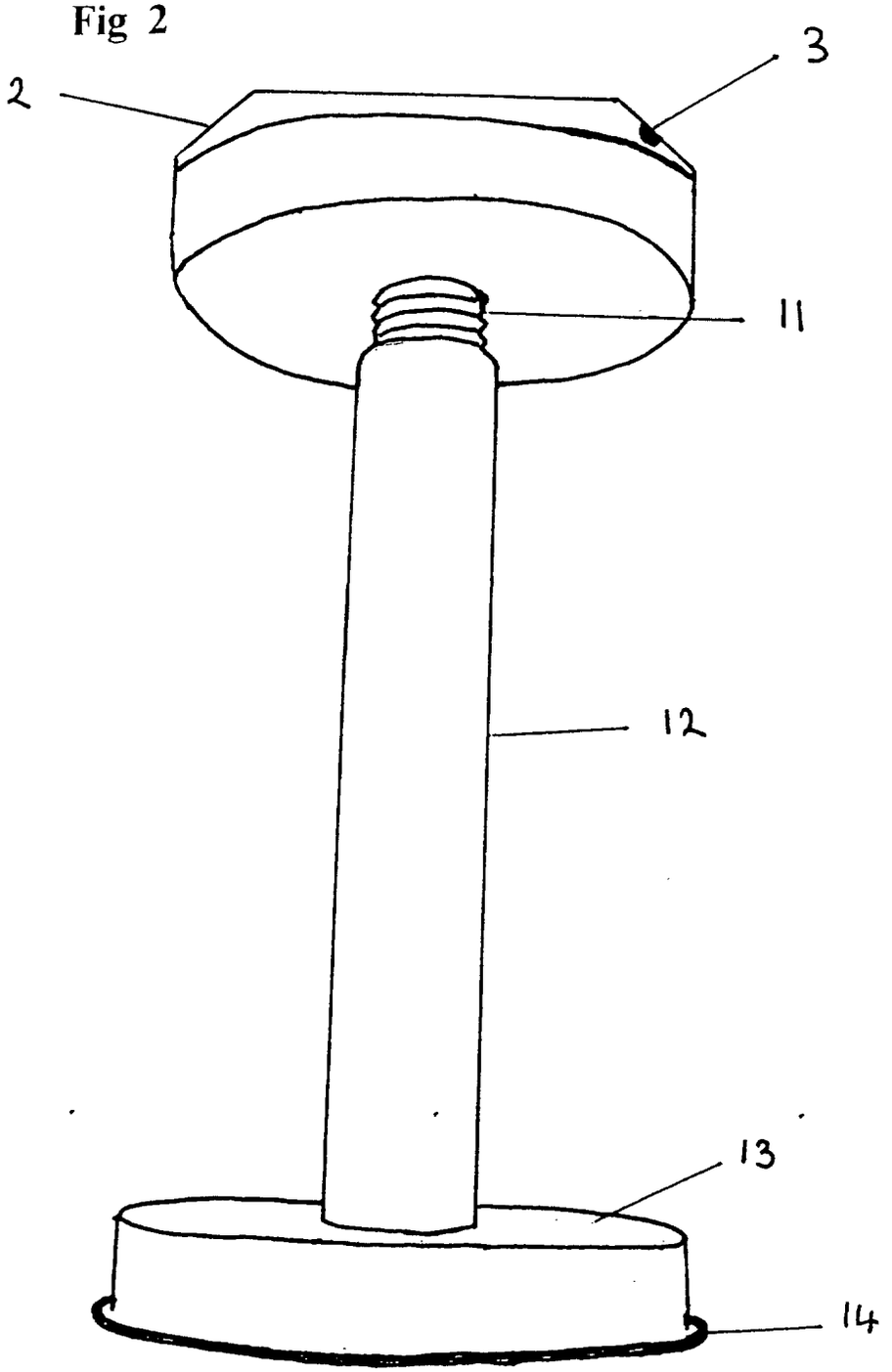


Fig 3

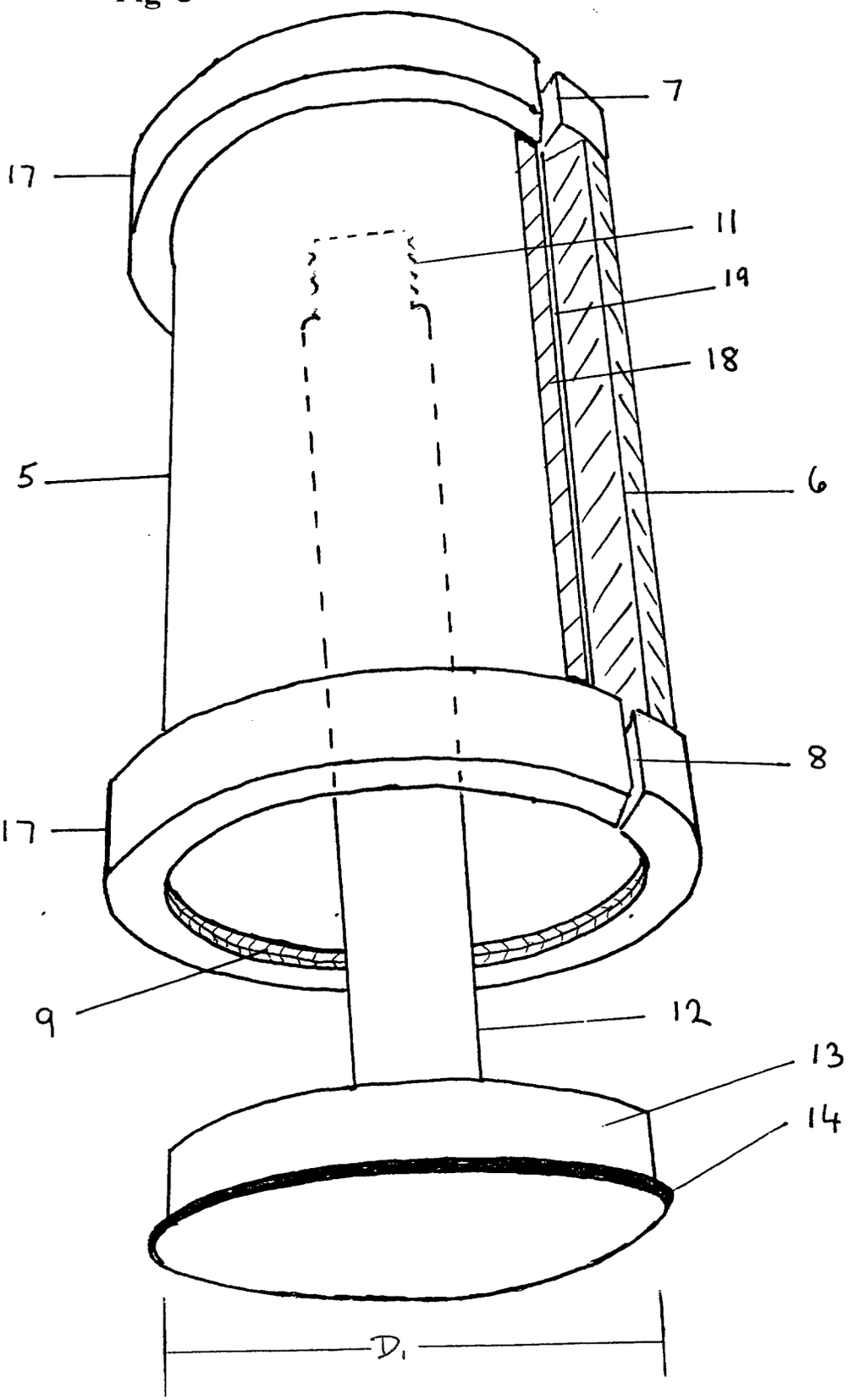


Fig 4

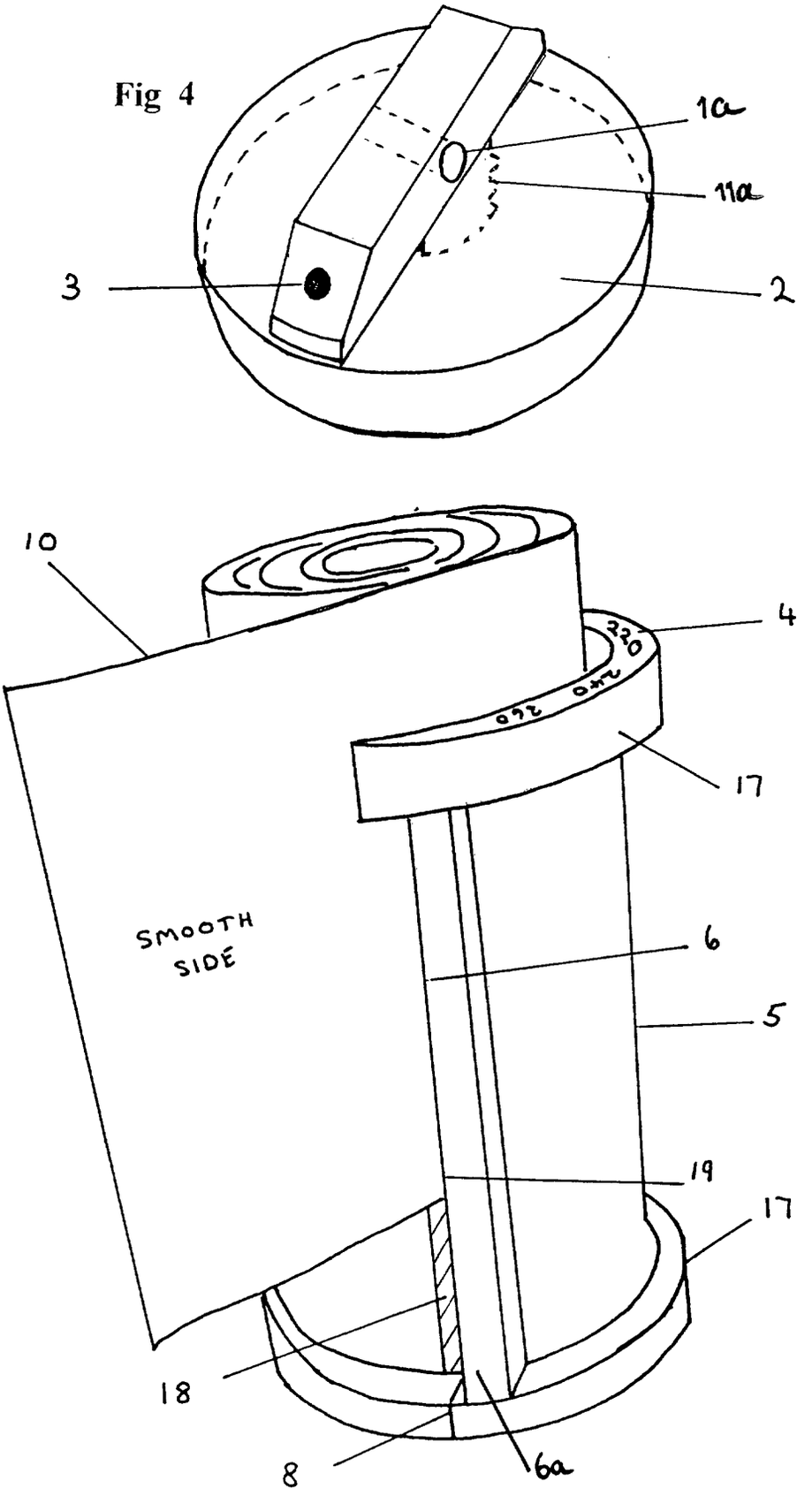


Fig 5

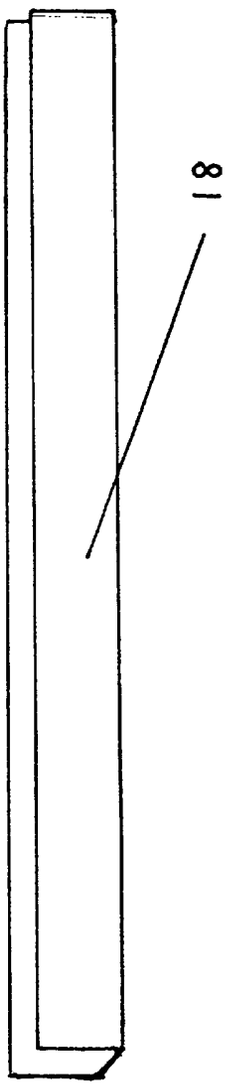
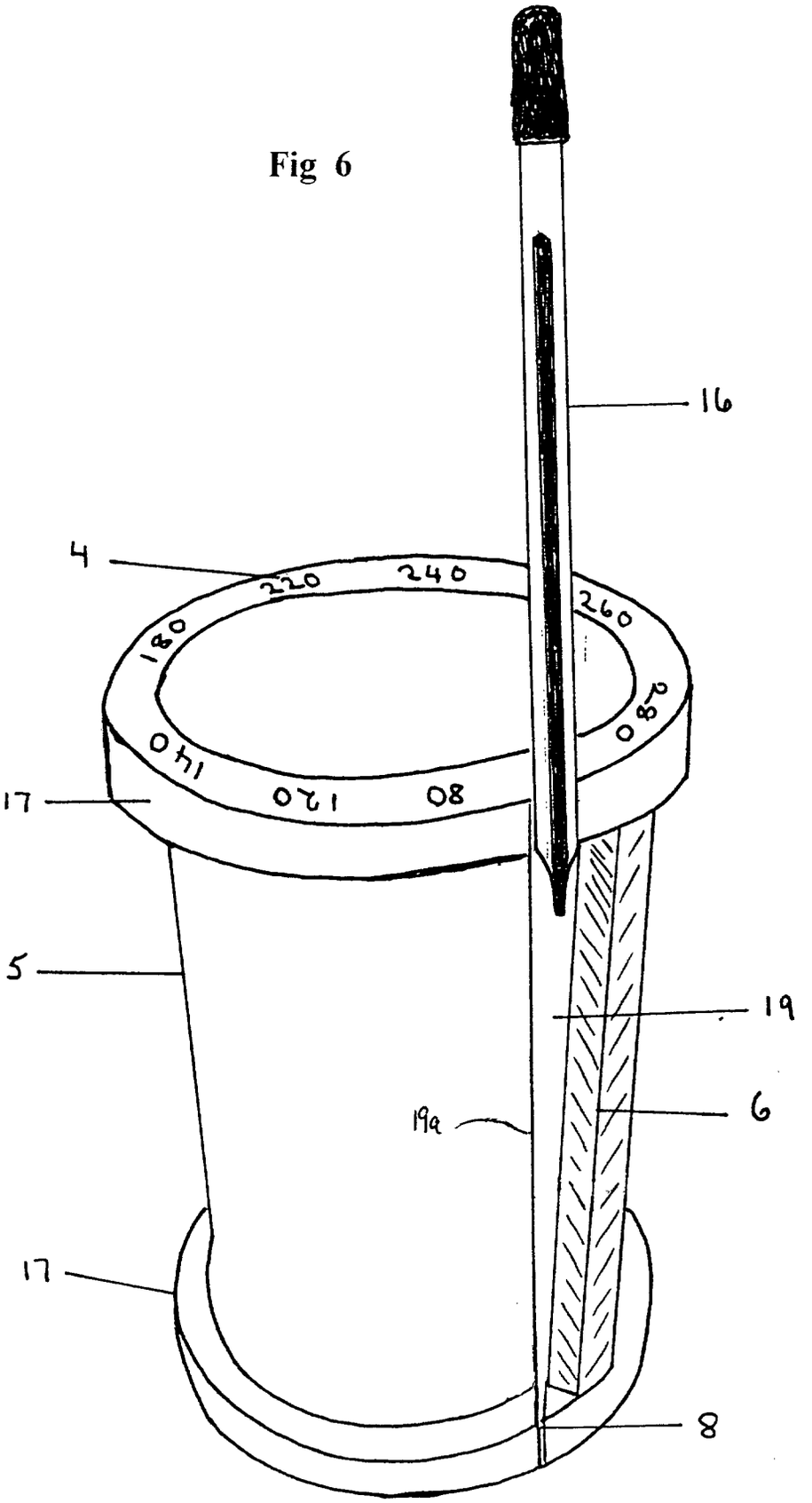


Fig 6



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EUROPEAN SEARCH REPORT

Application Number
EP 01 30 4857

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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Y	DE 80 34 466 U (SOPP WILH GMBH & CO KG) 16 April 1981 (1981-04-16) * claim 3; figures *	3	
A	US 1 523 297 A (SAVERY WALTER H) 13 January 1925 (1925-01-13) * figures *	1	
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	31 October 2001	Fournier, J

CATEGORY OF CITED DOCUMENTS

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