



Marc Pinault Blanc  
Tirez Cie  
12 Rue des Bouchons  
08000 Champagne  
France

Mr. Rees Sling  
European Patent Attorney  
Silvanerstrasse 23  
97018 Würzburg  
Germany

Champagne, 06 March 2017

Dear Mr. Sling,

We would like you to file an opposition on behalf of Tirez Cie against European Patent EP 2 394 232 B1 (Annex 1) granted to Zieher GmbH.

Annex 1 claims priority from two European applications, namely EP 10223223 and EP 11117055.

EP 10223223 consisted of claims 1-4, paragraphs [0001] to [0014] and the figures of Annex 1 as originally filed. The subject-matter of claims 5-7 of Annex 1 is identical to claims 12-14 of EP 11117055 and the content of paragraphs [0015] to [0018] of Annex 1 can be found in EP 11117055. However, no fees were paid and these previous applications are deemed withdrawn.

Claim 3 in Annex 1 as originally filed only depended on claim 1. During examination, the dependency was changed. No other amendments were carried out.

Annexes 2 to 6 may be of interest for filing the opposition.

Yours sincerely,

Marc Pinault Blanc

Enclosures:

Annex 1: EP 2 394 232 B1

Annex 2: IT TO20021082 A1

Annex 3: FR 2 625 455

Annex 4: Wine Review, May 2011

Annex 5: EP 0 503 334 A1

Annex 6: EP 2 088 778 A1

(19)



**Europäisches Patentamt  
European Patent Office  
Office européen des brevets**

(11) **EP 2 394 232 B1**

(12)

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(22) Date of filing: **07 April 2011**

(54) **Device for removing corks**

Vorrichtung zum Korkenziehen

Appareil pour retirer des bouchons

(84) Designated Contracting States:

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(73) Proprietor:

**Zieher GmbH  
67146 Deidesheim (DE)**

(30) Priority:

**08 April 2010    EP 10223223**

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(72) Inventor:

**Rolha, João  
67433 Neustadt an der  
Weinstrasse (DE)**

(43) Date of publication of application:

**12 October 2011    Bulletin 2011/41**

(74) Representative:

**Müller & Thurgau  
80335 München (DE)**

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid (Art. 99(1) European Patent Convention).

[0001] The present invention relates to devices for removing corks and cork extraction elements.

5 [0002] Glass bottles, particularly wine bottles, are normally sealed with a stopper made of cork and the device used to open the bottles, the corkscrew, is a standard piece of equipment in almost any household. The device comprises at least a helical element and a handle. The helical element, also colloquially known as spiral element, is inserted  
10 into the cork via the rotation of the handle while simultaneously applying downward pressure. The cork is removed by pulling the device.

[0003] It is also well-known that the device for removing corks may comprise a housing and at least one lever. A number of different types of devices have been developed since the first patented one in the late nineteenth century. Furthermore, they are quite  
15 popular as marketing gifts or souvenirs. In such cases, they are decorated with logos, bright colours or provided with amusing handles.

[0004] The invention is set out in the claims.

20 [0005] Figures 1, 3a and 3b show devices according to the present invention and figure 2 is a more detailed view of the cork extraction element of said devices.

[0006] Figure 1 shows a device for removing corks according to the invention. The device comprises a housing 1 in the form of a cylinder 1a having an upper open end 1b  
25 and a lower open end 1c through which a cork extraction element 2 extends. As represented in figure 2, the cork extraction element 2 comprises a straight portion 2a having a handle 3 attached to it and a spiral cork-engaging portion 2b extending from the straight portion 2a. The device is placed on the bottle so that the housing 1 rests on the bottle's neck. By rotating and applying pressure to the extraction element 2, the  
30 spiral portion 2b is inserted into the cork. Once the spiral portion 2b is completely within the cork, the user is able to remove the cork by pulling the device.

[0007] The housing 1 helps to centre the device, so that the extraction element 2 is correctly placed. In order to be able to rest on the bottle's neck, the housing 1 may have an annular recess at its lower open end 1c. This recess is useful in not only centring the device, but also in restricting the device's movement during use. The enclosed chamber  
5 formed by the housing 1 also protects the user from inadvertently trapping a finger in the cork extraction element 2.

[0008] The housing 1 is either made of plastic or of metal. The choice of plastic, such as polyethylene, for the entire housing 1 is normally due to the need of producing lighter  
10 devices. In case metal, such as stainless steel, is used, the housing 1 may also comprise a plastic ring fitted around the annular recess at the lower open end 1c. The plastic ring protects the rim of the bottle's neck from chipping.

[0009] Unlike the housing 1, the cork extraction elements are almost always made of  
15 metal (e.g. stainless steel). The extraction element's length, from its tip to the handle, is not critical and is typically from 10 to 20 cm. Left-turn spirals are commonly used, so that the cork extraction elements can be rotated clockwise. However, it is also possible to have right-turn spirals in order to facilitate the use by left-handed people.

[0010] The extraction element's spiral portion 2b has two different pitch sizes  $\alpha_1$  and  $\alpha_2$   
20 as shown in figure 2. The pitch size is the distance between two adjacent turns. A cork extraction element having a tightly wound spiral portion, i.e. a small pitch size, holds the cork more strongly. However, the presence of such an extraction element in the cork results in additional pressure being exerted on the bottle's neck and more force needs to  
25 be applied when pulling the cork. In the device according to the invention, the at least two different pitch sizes,  $\alpha_1$  and  $\alpha_2$ , allow the extraction element 2 to strongly hold the cork without the extraction element 2 originating too much pressure on the bottle's neck. Thus, during extraction the cork is more stable.

[0011] It is important to guarantee the stability of the cork during extraction, as the likelihood of breaking the cork is greatly reduced. If the cork breaks, the removal of the remaining part is often difficult and the probability of having at least some pieces of cork in the liquid is high. Such pieces are unpleasant and may be difficult to remove. It is preferable to have the smaller pitch size at the lower end of the cork-engaging portion 2b, i.e. the part closer to the extraction element's tip.

[0012] The choice of materials for the handle 3 is more varied. The handle 3 may be made from metal, plastics or even wood. A noble metal coating may also be used for special edition device. It is preferred that the handle 3 be flower-shaped. Such a shape is not only aesthetically pleasing, but also results in a more ergonomically adapted handle 3. The plurality of lobes provided by such a shape results in a better grip of the handle 3.

[0013] Figures 3a and 3b show another embodiment of the device according to the present invention. It comprises an extraction element having a ridged straight portion. This embodiment also comprises toothed side arms 6 coupled to a metal housing 1.

[0014] Initial rotation of the extraction element 2 into the cork will lift the side arms 6, because the ridges 4 in the straight portion engage with the toothed side arms 6. The downward movement of the extraction element 2 is accompanied by the upward movement of the side arms 6 (see figure 3a). Once the side arms 6 are upright, their downward movement by the user will extract the cork due to fact that the side-arms' toothed portions 5 engage with the ridges 4 of the straight portion causing the extraction element 2 to move upwards. The force exerted by the user on the side arms 6 results in their downward movement and allows the user to exert less force in order to remove the cork (see figure 3b). The metal housing 1 provides the necessary structural support for the side arms 6.

[0015] Another aspect of the invention is an extraction element, which comprises a disc attached to the straight portion and a coating on its spiral portion.

5 [0016] The disc serves as a brake for the insertion movement. If the user inserts the device for removing corks too deeply into the cork, there is the risk that the spiral portion will project too far from the cork's lower surface and that there is not enough hold on the cork. The disc, which is a plate-like element, minimises such a risk.

10 [0017] It may be important to reduce the friction between the cork and the extraction element so that the downward pressure exerted by the user is reduced. Excessive pressure may result in the cork being pushed into the bottle, with possible negative effects for the quality of the bottle's content. The use of a coating on the spiral portion is useful in reducing the friction and minimising resistance when inserting the extraction element.

15

[0018] Synthetic corks are made of polymeric materials and are more likely to be pushed into the bottle. The use of Polybacchus (PBc) coating material on cork extraction elements has shown to be particularly good in extracting synthetic corks. However, this coating material is expensive. A good compromise between cost and the benefit in cork  
20 extraction is to partially coat the extraction element. By coating a third to at most two-thirds of the element's spiral portion starting from the extraction tip, the initial turns into the cork are facilitated. The extraction element will still securely hold the cork, but it can be produced at a lower cost.

**Claims:**

1. A device for removing corks comprising:  
5 a housing (1) providing an enclosed chamber having a generally cylindrical shape; and  
a rotatable cork extraction element (2),  
wherein the rotatable cork extraction element (2) comprises at least a straight  
portion (2a) having a handle (3) attached to it and a spiral cork engaging portion  
10 (2b) and wherein the spiral cork-engaging portion (2b) has at least two different  
pitch sizes ( $\alpha_1$ ,  $\alpha_2$ ).
2. The device according to claim 1 further comprising two toothed side arms (6)  
coupled to the housing (1) and wherein the straight portion (2a) comprises  
15 ridges (4) that engage the side arms (6).
3. The device according to claim 1 or 2, wherein the housing (1) is made of  
polyethylene.
- 20 4. The device according to claim 1, wherein the handle (3) is in the shape of a  
flower.

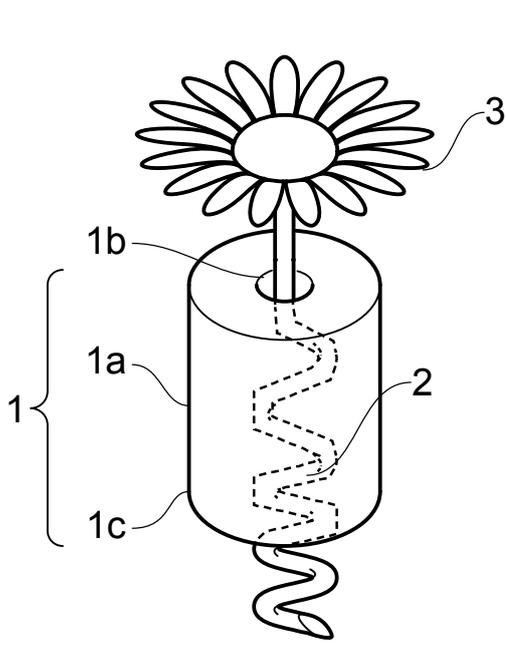


FIG. 1

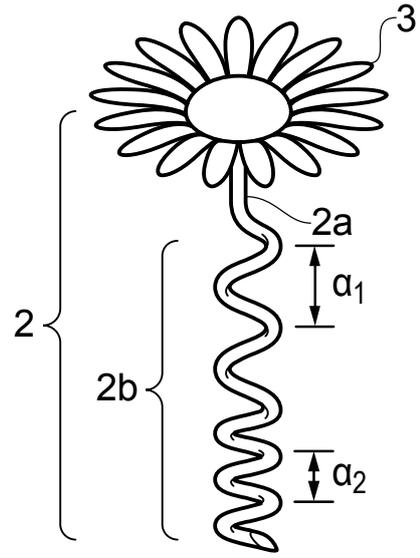


FIG. 2

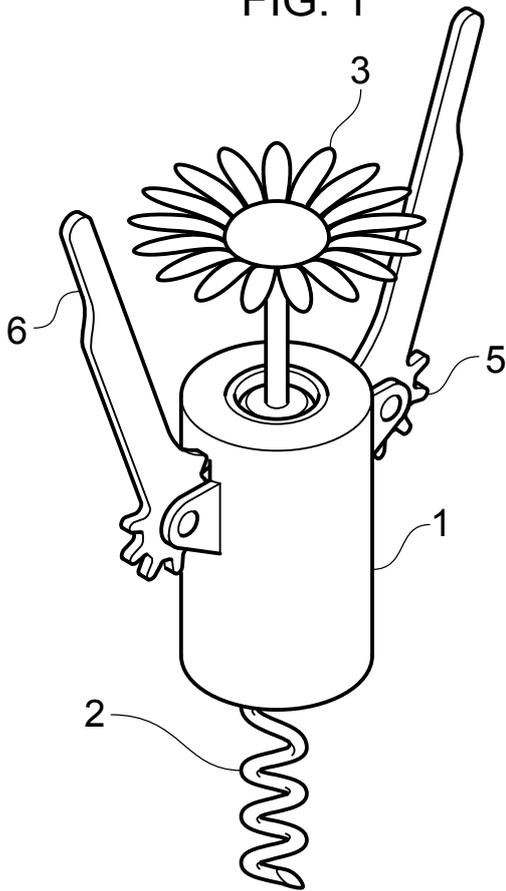


FIG. 3a

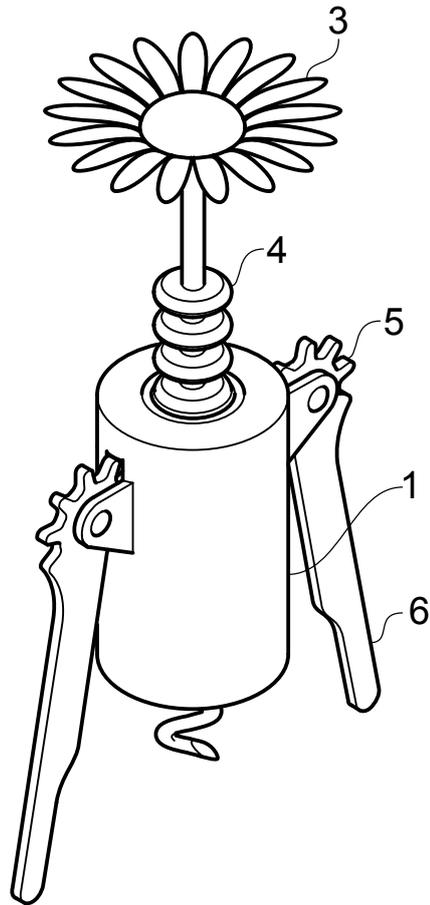


FIG. 3b

**(19) Italian Republic**

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(21) Application number: **IT TO20021082**  
(51) Int. Cl.: **B67B7/08**  
5 (22) Date of filling: **11 December 2002**  
(43) Date of Publication: **11 June 2004**  
(71) Applicant: **Soave S.p.A., 25121 Brescia**  
(72) Inventor: **Lou Ghana, 30010 Venice**

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**Pneumatic bottle opener**

15 [0001] Instead of opening bottles closed with a cork using the traditional corkscrew, it is also possible to do so using a gas. By feeding a gas to the space formed between the liquid level and the cork's lower surface, it is possible to increase the pressure in the bottle and drive the cork partially or even completely out of the bottle.

20 [0002] As represented in the figure, the pneumatic bottle opener 1 comprises a hollow chamber 2, a hollow piercing element 3 and a valve (not shown) placed between the chamber 2 and the piercing element 3. The chamber 2 is suitable to receive a cartridge 4 of pressurised gas. The cartridge's outlet communicates with the valve, which opens when actuated by the user. The piercing element 3 comprises an orifice 5 at its lower end for feeding the gas into the bottle.

25

[0003] The cartridge 4 may comprise pressurised air or nitrogen. Normally, the gas is at a pressure of 2 to 3 atm.

30 [0004] The piercing element 3 may be in the form of a needle, i.e. a straight hollow cylinder with a sharp tip. The needle is normally made of metal, which provides the necessary strength for piercing.

[0005] For some types of corks, such as synthetic corks, it may be more difficult to insert the needle. For these types of corks, it may be necessary to exert more force. Therefore, it is advantageous to apply a friction reduction layer onto the needle covering at least the tip and the lower half of the needle. Such a layer will allow a smoother  
5 insertion and reduce the force which has to be exerted by the user.

[0006] Polyfluorocarbons are friction reducing compounds. The above mentioned friction reduction layer may comprise them. Polybacchus (PBc), which is a polyfluorocarbon based co-polymer, is a particularly good material for achieving the  
10 necessary properties, albeit an expensive one.

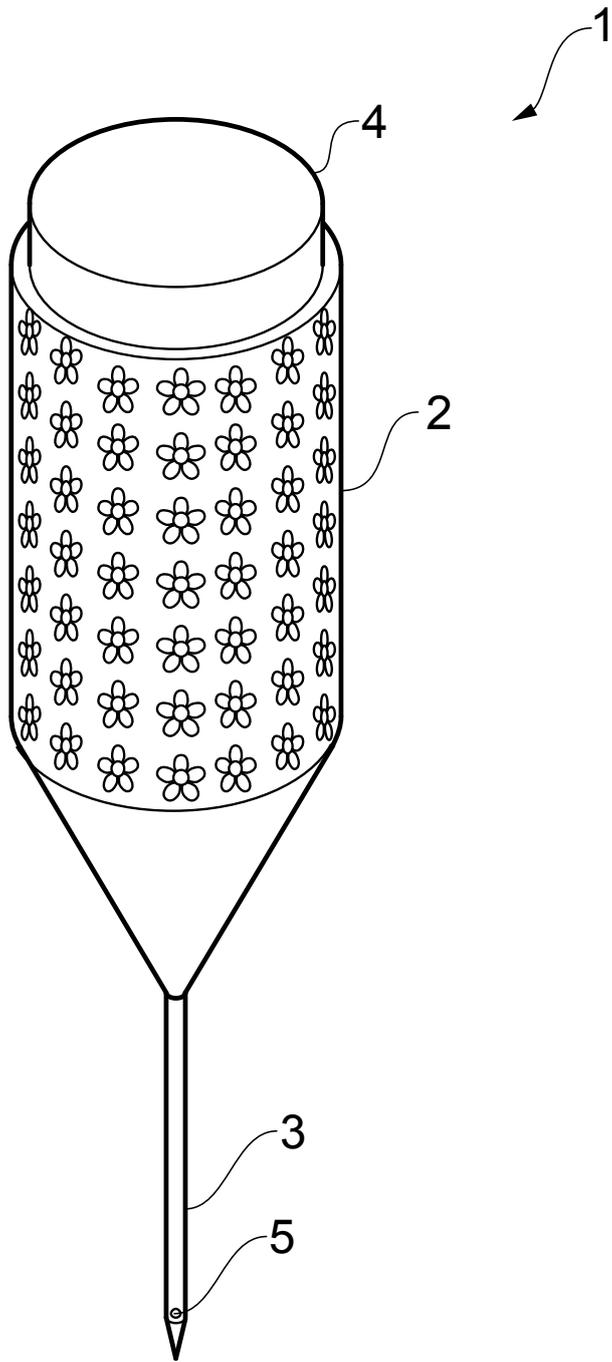
[0007] The user will insert the needle into the cork, so that its orifice is placed within the space above the liquid level. By actuating the valve, the gas released from the cartridge will be conveyed to this space and will increase the pressure. This increase in pressure  
15 will force the cork outwards.

[0008] The pressure increase may not be enough to completely expel the cork. The user will then have to remove the device before pulling the cork. In order to address such a case, the hollow piercing element may be in the form of a spiral. In this case, the  
20 user does not need to remove the device and may use the device to pull the cork out of the bottle.

[0009] Also in the case of a hollow piercing element in the form of a spiral, it is usual that this element is made of metal to provide the necessary strength. In order to reduce  
25 the possibility of breaking the cork while pulling it, it is preferred to have fewer turns in the upper half of this hollow piercing element.

**Claims:**

1. Pneumatic bottle opener (1) comprising a chamber (2), a hollow piercing element (3), a valve placed between the chamber (2) and the piercing element (3) and a pressurised gas cartridge (4).  
5
2. The pneumatic bottle opener according to claim 1, wherein the hollow piercing element (3) is in the form of a needle or a spiral.
- 10 3. The pneumatic bottle opener according to any of the preceding claims, wherein the lower half of the hollow piercing element (3) comprises a layer of Polybacchus co-polymer.



**(19) French Republic**

(11) Publication Number: **FR 2 625 455**  
(21) Application number: **88 00599**  
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5 (22) Date of filling: **20 January 1988**  
(43) Date of Publication: **20 July 1989**  
(71) Applicant: **Arbane S.A. - FR**  
(72) Inventor: **Donnay Charles**

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**Champagne bottle opener**

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[0001] Pressure builds inside champagne bottles due to secondary fermentation. It is important that the cork used to close champagne bottles is capable of maintaining the optimum pressure within them. In addition, champagne bottles comprise a metal fastener and a cap to further ensure that the bottle remains closed. The pressure within the bottle is normally about four bar.

20

[0002] Corks for champagne bottles are initially, like any other cork, cylindrical with a circular cross-section, but are compressed in order to be inserted into the bottle. The so-called mushroom shape derives from the fact that the part within the bottle can only expand once the cork is removed from the bottle.

25

[0003] Normally the user opens such bottles by first removing the metal fastener and easing the cork away from the bottle's neck. The pressure aids in expelling the cork and results in the characteristic "pop". However, an uncontrolled removal may also result in accidents or even injuries.

30

[0004] Therefore, there is a need to safely remove a cork from a champagne bottle.

[0005] The figure describes an embodiment of the present invention.

[0006] The opener comprises a handle 1, a body (described below), a central element 2 and levers 3. The central element 2 has in its lower section two gripping elements 4 and a spike (not shown). The central element 2 also comprises a straight upper section having sockets 5 on opposing faces. In order to restrict the central element's movement to a solely translational one, the straight upper section of the central element 2 has a square cross-section.

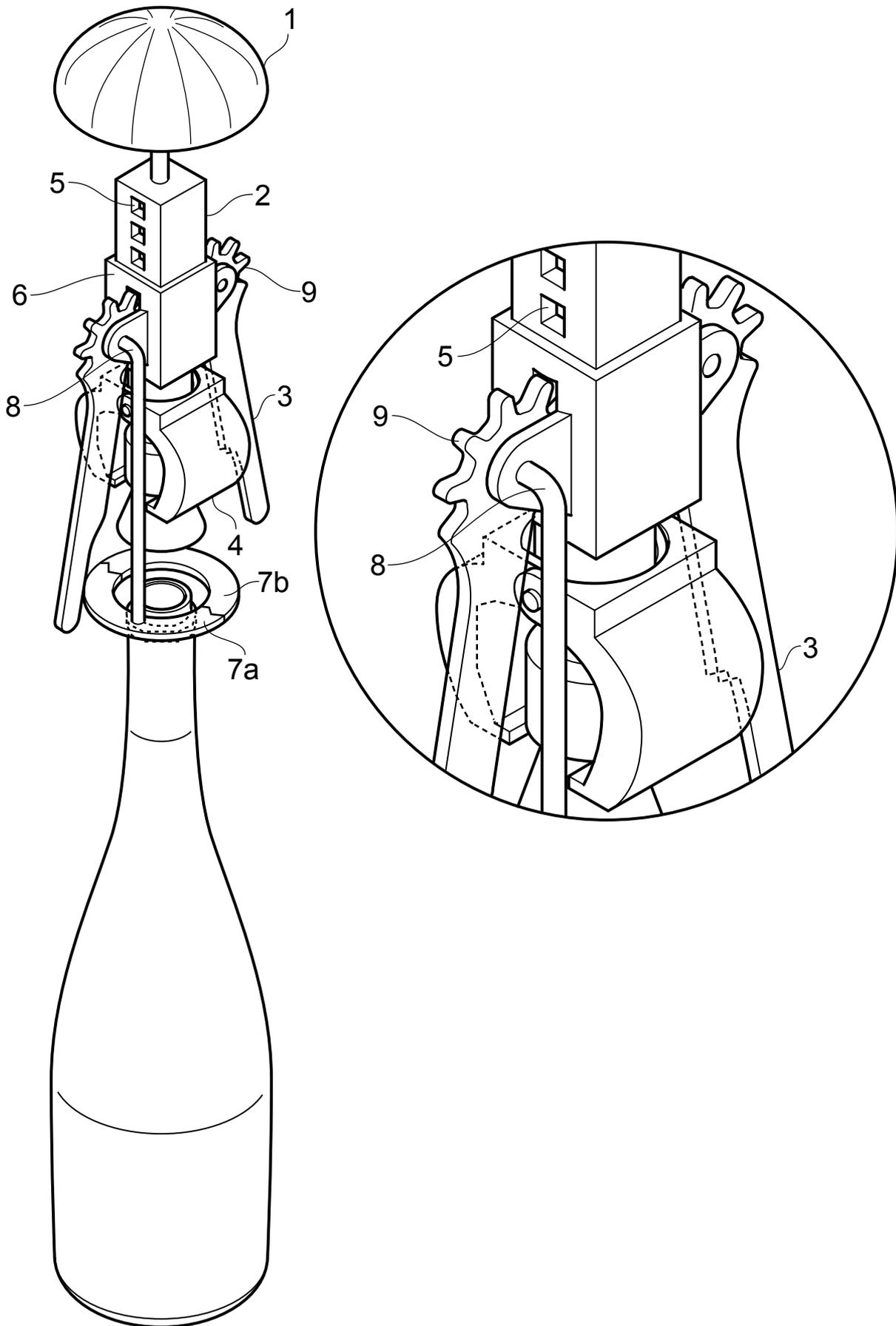
[0007] The body provides support for the levers 3 and comprises a guiding element 6 and centring elements 7a, 7b on to which the two legs 8 (only one shown) of the body attach. The guiding element 6 is placed at the upper part of the body and provides support for the toothed parts 9 of the levers 3. The central element's straight upper section passes through this guiding element 6. The centring elements 7a, 7b are located at the lower part of the body and comprise two brackets.

[0008] The entire device is made of metal, which provides the necessary robustness needed to extract this type of cork.

[0009] The user will lower the central element 2 so that the gripping elements 4 are placed between the cork and the bottle, i.e. underneath the "mushroom's cap", while the spike pierces and secures the cork. At this stage, the two levers 3 are in the upright position. As the user lowers the levers 3, the toothed parts 9 of the levers 3 engage the central element's sockets 5, the gripping elements 4 are locked in place and the cork is raised. It is preferred that the handle be clover-shaped, i.e. it comprises three or four lobes so as to provide the user with a better grip.

**Claim:**

1. An opener for champagne bottles comprising  
a body, a central element (2) and levers (3); wherein  
5 the central element (2) comprises in its lower section two gripping elements (4) and  
a spike; a straight upper section having sockets (5) on opposing faces and is  
placed in the body;  
and wherein  
the body supports the toothed parts (9) of the levers (3).

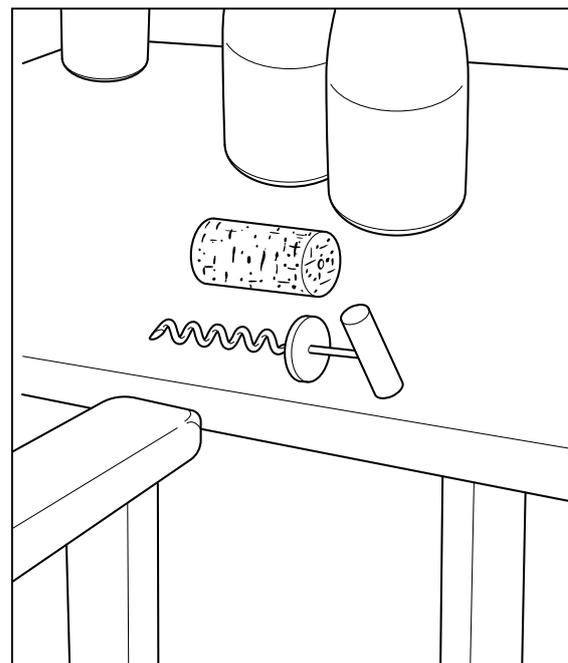


## Wine Fair in Oporto

The twentieth wine fair took place in Oporto, Portugal, from the 25<sup>th</sup>-27<sup>th</sup> of March of this year. Producers were able to showcase their latest wines. Products from over 30 different countries were represented. In addition to wine tastings and presentations on the countries and the wines that they produce, the visitors were able to talk to producers. This allowed the audience a better awareness of the problems and best practices in different parts of the world. In order to make the fair interesting, not only for producers and retailers but also for the general public, other aspects related to wine were also showcased. There were a large number of stalls from glassware manufacturers. Visitors could not only learn about the appropriate glass for each wine, but in some cases even see how a wine glass is made. Mr. Crystal, who was responsible for one of the stalls, stated that these demonstrations were always full and were a good way of marketing the products. A particularly popular section of the fair was the corkscrew section.

## Wine Review, May 2011

It had stalls displaying a wide range of these ubiquitous devices: from antique ones for collectors to the latest developments; from the classic one-lever corkscrew to versions that seemed more appropriate for a science-fiction film. Although Mr. Rolha's corkscrew is one of the simplest (see below a photo of the corkscrew available at the fair), he was very successful in selling it there. The corkscrew's polyfluorocarbon coating makes it easier to remove corks. The organisers were very happy with the attendance figures. Over ten thousand people visited the fair during the three days.



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**(12) European Patent Application**

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(11) Publication number: **EP 0 503 334 A1**  
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(30) Priority: **22 March 1991 US 681 162**  
(43) Date of Publication: **23 September 1992**  
(51) Int. Cl.: **B67B7/04**  
(71) Applicant: **Zinf & EI Inc, CA 94558 (US)**  
10 (72) Inventor: **Yam, Carrie, CA 95476 (US)**  
(74) Representative: **Cabinet Sauvignon, Bordeaux (FR)**  
(84) Designated Contracting States: **AT DE ES FR GR LU IT PT**

15 **Bottle opener**

[0001] A popular bottle opener has a foldable cork-engaging section and a foldable lever. Even though the lever aids in extracting the cork, the user still needs to pull the device in order to completely remove the cork. The present invention relates to a  
20 lever-type bottle opener that avoids such a need.

[0002] The figure shows an embodiment of the bottle opener according to the present invention.

25 [0003] The bottle opener comprises a centrally placed cork engaging element having a helical section 1 and a straight section 2. This latter section is attached to a handle 3 and comprises ridges 4. The bottle opener further comprises a supporting element 5 having a collar 5a, a circular element 5b and at least two ribs 5c joining  
30 the collar 5a to the circular element 5b. The collar 5a is only big enough to let the cork engaging element pass through and also serves as support for the toothed part 6 of the side arms 7. The circular element 5b is bigger than the collar 5a and is placed directly on the bottle's rim.

[0004] The ridges 4 may comprise a wear-reducing coating. In this way, the life-time of the bottle opener is significantly increased. Polydionysius or Polybacchus coatings can be used.

5 [0005] When in use, the user turns the cork engaging element while at the same time pushing downwards. The helical section 1 pierces the cork and is inserted by turning into the cork. The straight section 2 is also forced downward whilst the ridges 4 engage the toothed side arms 7, which rotate upwards. Once the cork engaging element is securely attached to the cork, the user pushes both side arms 7  
10 downwards and due to meshing between the ridges 4 and the toothed part 6 of the side arms 7 the cork will be lifted and removed. Thus, the user needs to exert less effort in order to remove the cork.

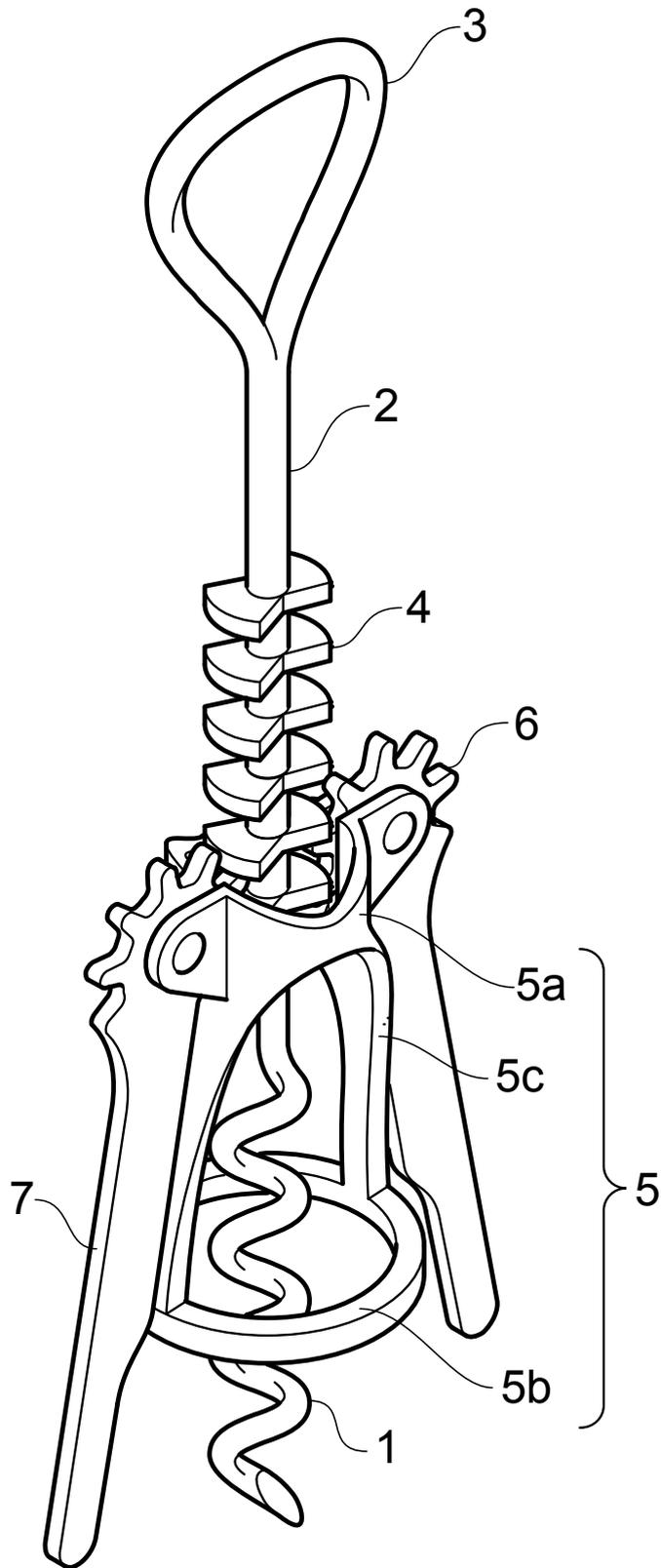
[0006] The opener may be made of metal or plastics. However, it is preferable that  
15 the cork engaging element and the supporting element 5 be made of metal. The handle may be made of plastics, e.g. polyethylene, which will reduce the weight of the bottle opener.

**Claim:**

1. A bottle opener comprising:

5 a centrally placed cork engaging element having a straight section (2) and a helical section (1); wherein the straight section is attached to a handle (3) and comprises ridges (4);

a supporting element (5) having a collar (5a), a circular element (5b) and at least two ribs (5c) joining the collar (5a) to the circular element (5b); and two toothed side arms (7).



**(19) European Patent Office**

**(12) European Patent Application**

(21) Application number: **09 252 247.5**  
(11) Publication number: **EP 2 088 778 A1**  
5 (22) Date of filing: **20 July 2009**  
(30) Priority: **22 July 2008 ES20080015433**  
(43) Date of Publication: **20 January 2010**  
(51) Int. Cl.: **B67B7/04**  
(71) Applicant: **Alvaro Iño SA, Cambados (ES)**  
10 (72) Inventor: **Uva, Graciano, Logroño (ES)**  
(74) Representative: **Cabernet, Frank, Cork (IE)**  
(84) Designated Contracting States: **AT BE BG CH CY CZ DE DK EE**  
**ES FI FR GB GR HR HU IE IS IT**  
**LI LT LU LV MC MK MT NL NO**  
15 **PL PT RO SE SI SK SM TR**

**Corkscrew**

20 **[0001]** Corkscrews are well known objects and have been used for a long time. During recent years, the development of corkscrews has focussed on optimising the helical element. By modifying existing shapes, using different materials or even different combinations of materials, it is sought to optimise cork extraction.

25 **[0002]** However, corkscrews remain heavy objects and require a significant effort from the user. The present application addresses such drawbacks. The corkscrew described below and claimed in the appended claim is lighter and easier to use.

**[0003]** The sole figure illustrates the presently claimed corkscrew.

5 [0004] The corkscrew comprises a structure 1 which supports a central element. This element comprises a helical part 2 and a straight part 3. The straight part 3 extends through the structure 1 and a handle 4 is attached to the straight part 3. The corkscrew also comprises a spring 5 placed around the straight part 3 of the central element.

10 [0005] The structure 1 is preferably made of polyethylene in order to make it lighter. The use of metals, such as stainless steel, in making these structures is the biggest contributor to the corkscrew's weight. However, it is also possible to form this structure 1 with metal ribs and a cover made of plastic material, thereby also forming an enclosed chamber. Such an embodiment is a good compromise between providing robustness and reducing the overall weight.

15 [0006] The structure 1 also minimises the risk of injury and allows a safer use of the corkscrew. Although the structure 1 may be either parabolic or cylindrical in shape, a cylindrical shape is the most preferred.

20 [0007] The handle 4 may also be made from the same materials as the structure 1. It may be of any shape, as long as it can accommodate the central element and provide an abutment for the spring 5.

[0008] The central element is made of metal in order to provide the necessary resistance and stability during extraction of the cork.

25 [0009] When in use, the user rotates the handle 4 clockwise in order to insert by turning the helical part 2 of the central element into the cork and at the same time the spring 5 is compressed between the structure 1 and the handle 4. Once the spring 5 is completely compressed, the user will pull the handle 4. This action together with the spring extension will result in an easier and more stable removal of the cork.

**Claim:**

1. A corkscrew comprising:

a structure (1);

5 a central element extending through the structure (1) and having a helical part (2) and a straight part (3); and

a handle (4);

wherein the corkscrew also comprises a spring (5) around the straight part (3) of the central element.

10

