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

(11) EP 1 172 327 A1

(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 158(3) EPC

(43) Date of publication:
16.01.2002 Bulletin 2002/03

(21) Application number: **00940430.2**

(22) Date of filing: **05.07.2000**

(51) Int Cl.[7]: **B67B 7/04**

(86) International application number:
PCT/ES00/00238

(87) International publication number:
WO 01/25133 (12.04.2001 Gazette 2001/15)

(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: **05.10.1999 ES 9902509 U**

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(54) IMPROVED CORKSCREW

(57) Improved corkscrew, of those constituted by a helicoidal body (1) articulated on its upper end (2) to a handle (3) having articulated at one of its ends a long element (5) provided of a projection (5') on its free end and by the existence of another, shorter, articulated element (4) situated next to the helicoidal element (1) and ending on a projection (4'). The assembly may also present an element articulated to the handle (3) composed by a laterally cutting blade and a jagged edge.

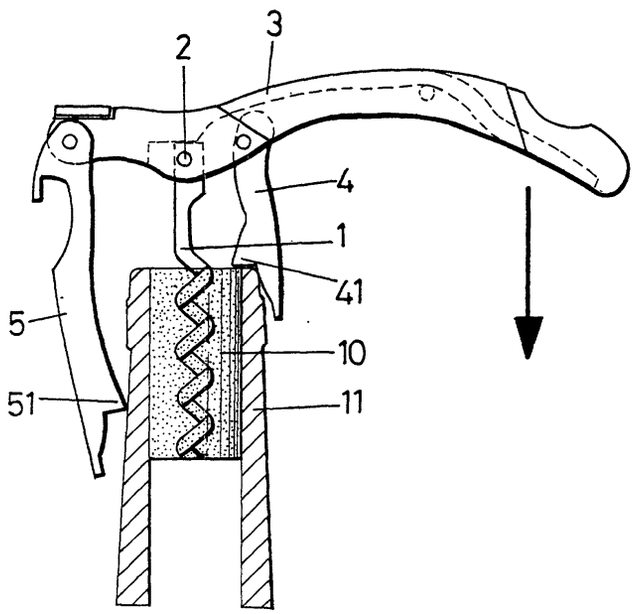

FIG.1

EP 1 172 327 A1

Description

OBJECT OF THE INVENTION

[0001] The present descriptive invention refers to an improved corkscrew, the evident utility of which resides in its configuration as a device capable of extracting cork stoppers which close the mouth of a conventional bottle.

[0002] The invention, which counts with a conventional helicoidal element which is introduced by rotation into the cork, has two differentiated supports, that permit that, on exerting vertical force upon the handle of the invention, the ascending vertical force generated by the whole assembly, which extracts the cork, is carried out, throughout all of its trajectory, according to a substantially vertical direction, avoiding the oblique forces exerted with conventional corkscrews, which can break the corks while extracting them.

FIELD OF THE INVENTION

[0003] This invention has its application within the industry dedicated to the manufacture of elements and devices applicable in enology, more specifically, within the industry dedicated to the manufacture of corkscrews.

BACKGROUND OF THE INVENTION

[0004] It is common knowledge that there are corkscrews constituted by a helicoidal element with a pointed end that is articulated, at its opposite end, in the middle area of a handle which, at its end, has a body provided with a projection.

[0005] In this manner, after introducing the helicoidal element into the cork by rotation generated by means of the handle, which at this stage is arranged perpendicular to the position of the helicoidal element, the cork is extracted by exerting vertical force upon the handle at the time that the projection of the articulated body rests on the mouth of the bottle.

[0006] The fact that the helicoidal body, as well as the element having a projection, are both articulated to the handle, permits, on the one hand, to multiply the force exerted, because the whole assembly is configured as a lever, and, on the other, that the extraction force is exerted such that the line of action of the latter runs substantially parallel, and in a direction perpendicular to the plane in which the mouth of the bottle is defined.

[0007] However, if all of the cork is to be extracted in the same operation, it is frequent that it will break, because the end of the arch described by the articulation of the helicoidal body, which follows that of the body having the projection, departs from the vertical axis of the neck of the bottle, thereby generating an oblique force which hinders the extraction.

[0008] On the other hand, if there is a desire for the projection of the body that articulates at the end of the handle to act at the beginning of the extraction, it will not be possible for it to do so while the last section comes out, due to the length of the cork, this having to be done, in many cases, by exerting considerable traction without the aid of the aforementioned lever.

[0009] In order to avoid this situation, the applicant is aware of the existence of corkscrews constituted by a piston-pump connected to a hollow needle that are capable, if the tip of needle longitudinally traverses the cork, of increasing the pressure within the volume delimited by the liquid contained in the bottle, the bottle itself and the cork, causing the latter to be expelled from its housing when the force exerted by the pressure upon the inner face of the cork exceeds the frictional stress existing between the side wall of the cork and the internal face of the neck of the bottle.

[0010] However, the expulsion of the cork is followed by a slight explosion caused by the expansion of the air that propelled the cork, thus making them distasteful to many users, an likewise, the increase in pressure at the liquid interface bring about an increase in the solubility, into it, of certain gases, changing its organoleptic characteristics.

[0011] Considering the problems encountered in this field, it would be desirable to count with a corkscrew that would allow extracting the cork stopper of a bottle without the need of performing direct traction of the former at any time, avoiding, at the same time, increasing the pressure at the liquid-gas interface within the bottle.

[0012] The applicant is not aware of the existence of any manual corkscrew that presents the advantages described above as desirable in devices of this nature.

DESCRIPTION OF THE INVENTION

[0013] The improved corkscrew proposed by the invention constitutes an obvious novelty within its field of application, allowing the extraction of a cork stopper from the neck of a bottle without the need of performing direct traction of the former at any time, and without increasing the pressure at the liquid-gas interface within it.

[0014] Specifically, the invention is constituted by a conventional helicoidal body, articulated at the middle area of a handle, which presents two elements provided of articulated projections at both sides of the helicoidal element.

[0015] The elements having articulated projections have these oriented, in both cases, towards the helicoidal body, being the one closest to the handle shorter than that which is further away, being it possible for the assembly to incorporate articulated pocket-knife blades, bottle-openers, can-openers or the like.

[0016] In this manner, the operation employing the improved corkscrew begins with the introduction of the helicoidal body longitudinally into the cork by rotating the latter with the aid of the handle, subsequently pulling on handle, vertically and upwards, after resting the element provided with the shortest projection on the perim-

eter of the mouth of the bottle.

[0017] In this manner, by virtue of the leverage created, it is possible to extract the first section of the cork stopper to a length equivalent to the distance between the projection and its articulation.

[0018] The second step in the operation, which concludes with the full extraction of the cork stopper, is carried out by exerting a descending vertical push upon the handle, after resting the projection of the long element on the mouth of the bottle.

[0019] This is made possible because, although the projection is situated in both elements at an equal distance from their ends, the length of the former is different, making it impossible to operate with the long element in the first step of the extraction, nor with the short element in the final step.

[0020] The outcome is a two-step extraction in which, at no time does it become necessary to directly exert traction upon the cork stopper, or to increase the pressure of the gas at the interface within the bottle.

DESCRIPTION OF THE DRAWINGS

[0021] To complete the description being made and in order to provide a better understanding of the characteristics of the invention, the present descriptive report is accompanied, as an integral part thereof, by two pages of plans in which, with an illustrative and non-limiting character, the following are depicted:

Figure number 1 - Shows a representation of the first step of the operation for extracting a cork stopper from its housing in a bottle, the pointed arrow representing the direction of the force exerted upon the handle.

Figure number 2 - Shows the second step of the extraction of a cork stopper, in which the longest element of the two which have a projection at its end, is used.

Figure number 3 - represents the outcome of applying an ascending vertical force, shown by a pointed arrow, upon the handle of the invention.

PREFERRED EMBODIMENT OF THE INVENTION

[0022] Under the light of these figures it may be seen how the improved corkscrew described is constituted by a helicoidal body (1), articulated on its upper end (2) to a handle (3), to which in turn are articulated two elements provided of articulated projections at their ends (4) and (5).

[0023] The short element having a projection on its end (4), is articulated at the end of the handle (3), being its projection (41) oriented towards the helicoidal body (1), in the same manner as projection (51) of the long element having a projection on its end (5), which is articulated next to articulation (2) of the helicoidal body (1).

[0024] The short element having a projection at its end (4) and the long element having a projection at its end (5) can be arranged parallel to the handle (3), minimising their size, being it possible to include into the assembly articulated cutting blades to cut the foil on the neck of the bottle, or conventional bottle-openers or can-openers.

[0025] The assembly may present a laterally cutting blade with a jagged edge, articulated to the handle.

[0026] It is not considered necessary to extend this description any further for any expert in the art to understand the scope of the invention and the advantages derived thereof.

[0027] The materials, shape, size and arrangement of the elements are susceptible of variation, as long as this does not imply a an alteration in the essence of the invention.

[0028] The terms in which this report has been described shall always be interpreted in the widest, non limiting sense.

Claims

1. Improved corkscrew, of the kind constituted by a helicoidal body (1), articulated on its upper end (2) to a handle (3), **characterised in that** two elements provided of articulated projections at their ends (4) and (5) are likewise articulated, being the longest element articulated at the end of the handle (3), being its projection (51) oriented towards the helicoidal body (1), similarly to projection (41) of the short element which is articulated next to articulation (2) of the helicoidal body (1).

2. An improved corkscrew, according to the first claim, **characterised in that** the short element (4) presents a projection (41) at its end and the long element (5) has a projection (51) at its end, being it possible to arrange these in parallel to the handle (3).

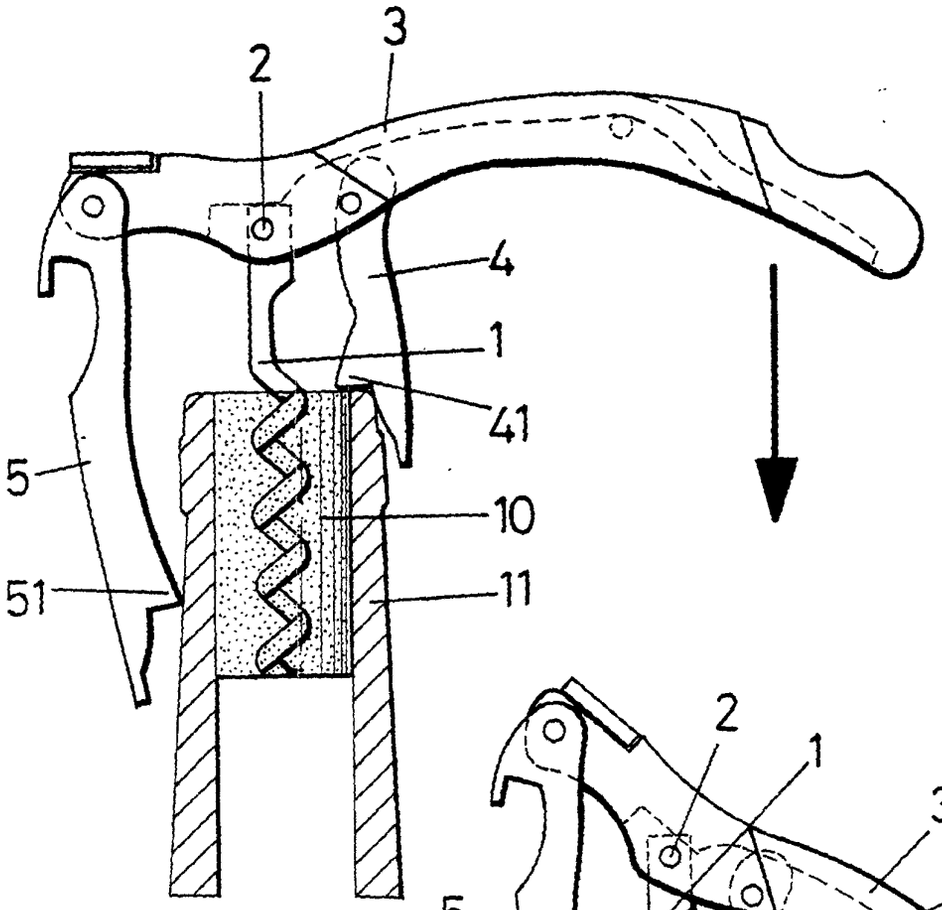

FIG.1

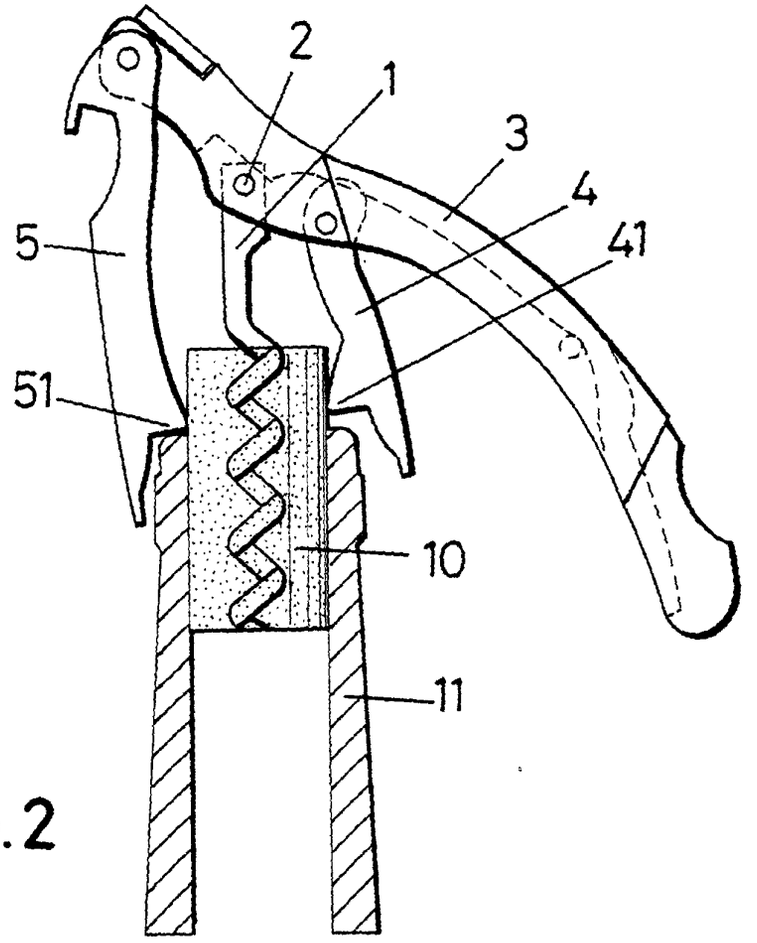

FIG.2

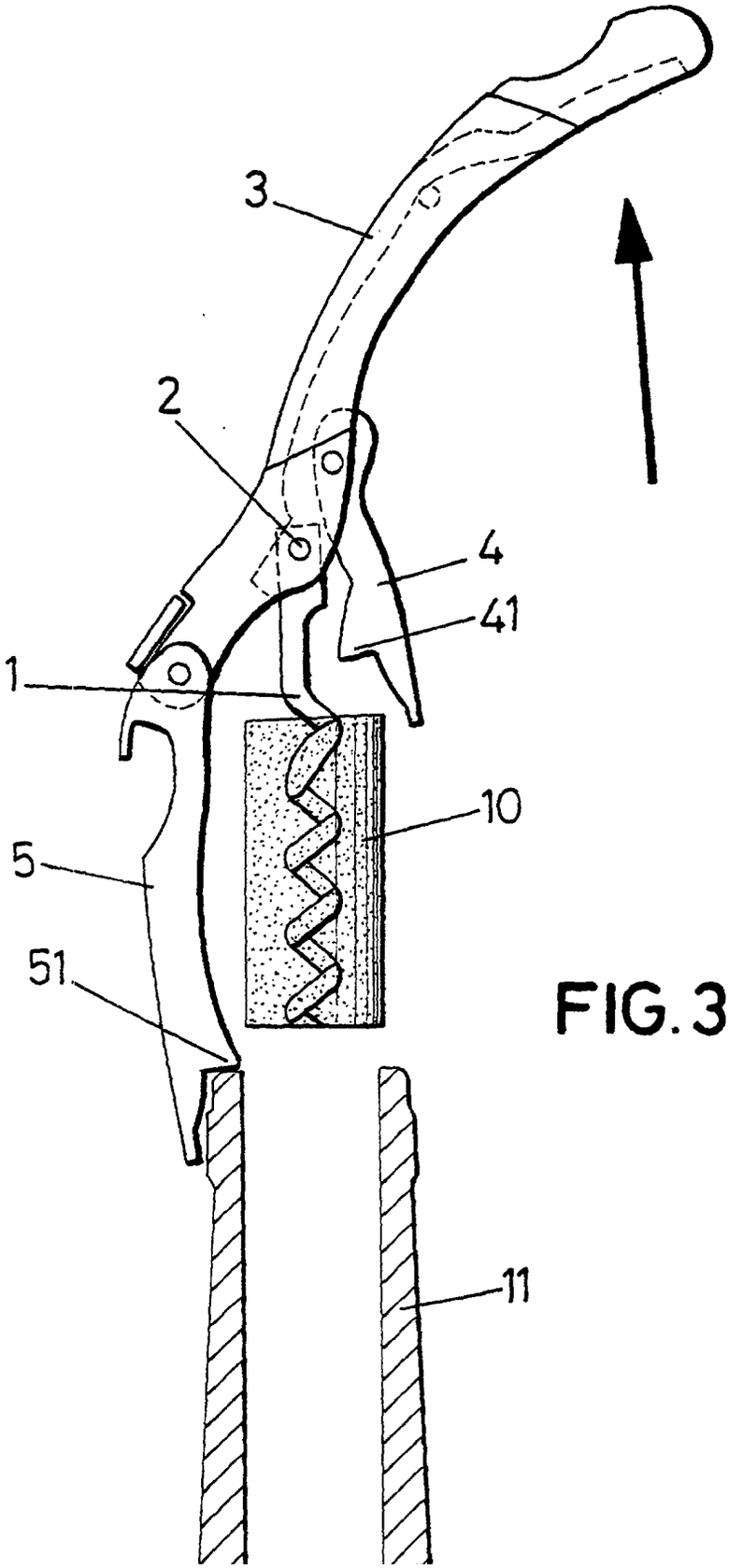

FIG. 3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ ES 00/00238

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B67B 7/04
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B67B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used
CIBEPAT, EPODOC, WPIL, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 562174 A1 (EFFEGI S.r.l.) 29 September 1993 (29.09.93) Figure 1.	1,2
Y	FR 2770209 A1 (J. LEFEBVRE) 30 April 1999 (30.04.99) Figure 1.	1,2
Y	ES 1020637 U (PULLTAP'S S.L.) 16 July 1992 (16.07.92) Figures	1,2

☐Further documents are listed in the continuation of box C. ☒Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
29 September 2000 (29.09.00)	24 October 2000 (24.10.00)
Name and mailing address of the SPTO	Authorised officer Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/00 ES/00238

Patent document cited in search report	Publication date	Patent familiy member(s)	Publication date
EP 562174 A1	29.09.1993	AT 152078 T DE 69219311 D,T IT 1258065 B US 5454282 A	15.05.1997 28.05.1997 20.02.1996 03.10.1995
FR 2770209 A1	30.04.1999	NONE	
ES 1020637 U	16.07.1992	NONE	

Form PCT/ISA/210 (patent family annex) (July 1992)