



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 151 931 A1**

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

(43) Date of publication:
07.11.2001 Bulletin 2001/45

(21) Application number: **99949488.3**

(22) Date of filing: **16.09.1999**

(51) Int Cl.7: **B65D 39/00, B65D 55/00**

(86) International application number:
PCT/RU99/00360

(87) International publication number:
WO 00/23341 (27.04.2000 Gazette 2000/17)

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**

(30) Priority: **22.10.1998 RU 98119073**

(71) Applicant: **Vetrov, Vladimir Viktorovich**
St. Petersburg, 199155 (RU)

(72) Inventors:
• **VETROV, Vladimir Viktorovich**
St. Petersburg, 199155 (RU)
• **SKOROBOGATYKH, Vladimir Arkadievich**
St. Petersburg, 197343 (RU)

(74) Representative: **Zellentin, Rüdiger, Dr. et al**
Zellentin & Partner,
Zweibrückenstrasse 15
80331 München (DE)

(54) **DEVICE FOR CAPPING VESSELS**

(57) The invention relates to capping devices and can be used in corks, caps, leads and other closure means for bottles, jars or other vessels.

The objective of the invention is to provide a capping device of a simplified structure which ensures highly reliable protection of the vessel contents against fraudulent actions and allowing individual users to check the authenticity of the vessel contents without using any additional equipment. Another objective of the invention is extending functional capabilities of the device.

The objective is attained by provision of a device for capping vessels 3 comprising a closing member 1 and a protective coating 5 with a marked insert 4 positioned under the protective coating 5. The marking may consist of the manufacturer's trademark, any specific image, a stamp, an inscription indicating the brand, grade and quality of the contents, the date of release, etc. The protective coating 5 protects the closing member 1 and the marked insert 4, and prevents withdrawing them without any visible break of the integrity of the vessel closure. As the protective coating, a metal or plastic cap, a muzzle, pasted-on metal foil or other materials can be used. The function of the protective coating 5 may be performed by the body of a twist-off cap used as closing member 1 and provided with a protective belt 8. The protective coating 5 may be made translucent. The marked insert 4 is made in the form of a metal plate, but plastics, compounds, ceramics or other materials can also be used for this purpose. The marked insert 4 may be placed under the protective coating freely, or it can be glued to the closing member 1 (cork, cap or lid), to the protective coating 5, or intimately pressed to them, or

joined to them in any other way. It may be in the form of an advertising carrier, a counter, a medal, a decoration or a game means of individual-mass usage. This provides the possibility of using the insert as a payment means for automatic machines, as an object for collections, a decoration or a game means, e.g., for lotteries.

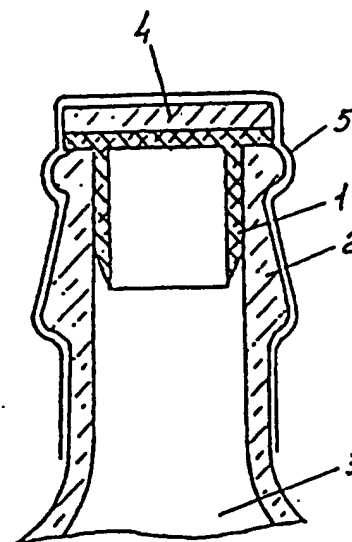


Fig.1

Description

Field of the Invention.

[0001] The invention relates to capping devices and can be used in corks, caps, lids or other closing means for bottles, jars or other vessels.

Background of the Invention

[0002] There are prior art devices for capping vessels comprising a cork with a cap or other cover means placed on a portion of the vessel over the cork (German laid-open application No. 2532327, Int. Cl. B65D 39/12, issued in 1997; French application No. 2544289, Int. Cl. B65D 39/08, issued in 1984; French application No. 2705645, Int. Cl. B65D 39/00, issued in 1994). Such devices protect contents of vessels against any fraudulent actions more reliably than in case merely a cork is used. However, they do not provide high reliability when used for closure of valuable contents.

One of prior devices for closing vessels comprises two concentric cylinders having a common bottom, a means for eliminating falsification of the vessel content, and an annular lock positioned on the inner side of the outer cylinder (Inventor's Certificate of the USSR No. 662433, Int. Cl. B65D 41/00, issued in 1979). The outside surface of the bottom has an annular groove to prevent falsification of the vessel contents.

A cork for closure of bottles is known comprising a cap and a concentrically positioned cylinder. The cap carries a membrane, a chip, a sensor and a power supply unit (Patent of Russia No. 2102296, Int. Cl.⁶ B65D 39/00, issued in 1998). A bottle neck with a cork mounted therein is covered with a muzzle or with a velvet coating which performs the function of a protecting coating. During uncorking the bottle, when the muzzle is untwisted, the sensor operates to close a circuit connecting the power supply unit, the chip and the membrane. As a result, breaking of integrity of the protective coating is accompanied by an audible signal or a melody programmed by the chip, which extends functional capacities of the cork.

The device closest to the present invention in terms of combination of essential features is the known guarantee device for vessels (French Application No. 2667576, Int. Cl. B65D 39/00 issued in 1992). The device comprises a cork, a cap which performs the function of protective coating, and an electronic microcircuit for detection and prevention of fraudulence. The microcircuit is fixed to the cork or the cap; it has contacts for connection and an electronic digital code which can be read out by external means. The code is destroyed, modified or becomes completely unreadable in case of any manipulations with the cork, in particular, in case of an attempt to withdraw the cork. The label of the bottle bears an optical code identifying the serial number of the vessel. The electronic and optical codes are created by the moment

of closing the vessel. A check of intactness of the vessel contents is carried out by means of a device for reading the electronic code, a device for reading the optical code, and a unit for computation and processing of codes being identified. The result of code processing and comparison is an output signal indicating that the initial condition of the vessel has been kept intact or that an attempt of unauthorized opening has been made including opening for the purpose of fraudulence. The described coding principle can be used with various corks, caps or lids for sealing bottles, phials, cans, capsules and for closing bags, boxes or other containers.

A drawback of the security device is its complicated design since the device comprises sophisticated external equipment for code reading and processing which, moreover, requires high manufacturing costs. This hinders wide application of such security devices and utilization thereof by individual users and groups of users having no code reading and processing equipment. Further, the device and its components have narrow functional capabilities and cannot be used for other purposes.

Objective of the Invention

[0003] The objective of the invention is to provide a device for capping vessels of a simple design ensuring highly reliable protection against fraudulent actions and allowing individual users to check the authenticity of the vessel contents without using any additional equipment. Another objective of the invention is extending functional capabilities of said device.

Attainment of the Objective

[0004] The objective of the invention is attained by provision of a device for capping vessels comprising a closing member and a protective coating, and having, according to the invention, a marked insert located under the protective coating.

The marking may consist of the manufacturer's trademark, any specific image, a stamp, an inscription indicating the brand, grade and quality of the contents, the date of release, etc. The marked insert manufactured by a complicated process is difficult to forge, which improves security of the contents.

The protective coating protects the closing member and the marked insert, and prevents withdrawing them without any visible break of the integrity of the closing member.

As the protective coating, a metal or plastic cap, a muzzle, pasted-on metal foil or other materials can be used. A twist-off cap screwed on the vessel neck and provided with a protective belt may perform the function of the protective coating. Any other known means can also be used for making the protective coating.

The protective coating can be made translucent or opaque, continuous or having a window for inspecting

the marked insert. A translucent coating or a window made in the coating make it possible to check visually the presence and authenticity of the marked insert by its appearance, without withdrawing it from the protective coating.

The marked insert is preferably made in the form of a metal plate.

Corrosion- and oxidation-resistant alloys can be used as metal for making the marked insert. Alternately, it can be made of alloys that are suitable for chromium-plating, anodizing or application of other surface coating. Various plastics, compounds, ceramics and other substances can also be used as material for the insert.

The shape of the marked insert is preferably round, which allows it to be placed most conveniently in the neck or the discharge opening, in the body of a threaded cap, in a lid, etc. The insert may also have other shape, e.g., rectangular, fancy or other, which also provides attainment of the objective of the invention.

The marked insert may be freely placed under the protective coating, or it can be glued to the cork, cap, lid and/or protective coating, or intimately pressed to them, or joined in any other way.

The marked insert bears registration information. As registration information, the marked insert may bear the serial number of the vessel, the code, the date of release or any other information that allows one to identify the manufacturer and the contents of the vessel.

The other objective of the invention consisting in extension of functional capabilities of the device components is attained by making the marked insert in the form of an advertising carrier, and/or a counter, and/or a medal, and/or a game means for individual-mass usage.

Making the marked insert in the form of an advertising carrier allows it to be used for advertising the manufacturer's goods or services.

As an advertising carrier, the marked insert will be purchased together with the vessel by a buyer who is already buying this type of goods, that is, the advertising information is well-directed and purposeful.

Making the marked insert in the form of a counter allows it to be used as a paying means in automatic machines. Making the marking insert in the form of a medal allows it to be used as a keepsake, an object for collections or a decoration.

Making the marked insert in the form of a game means allows it to be used in various games, such as lotteries. In this case, some marked inserts can be made as winning ones. A winning insert may differ from other inserts of the same lot in its colour and value of material of which it is made, the colour of electroplated coating, application of the coating on one side or both sides of the insert, a conventional inscription or designation or other features.

The marked insert made in the form of a game means can be used with regard to the marking information it is bearing.

Disclosure of the Invention

[0005] The invention will be further explained by detailed description of its embodiments with reference to the accompanying drawings.

Brief Description of the Drawings.

[0006] The above-specified advantages of the present invention will be more easily understood from description of preferred embodiments presented in the drawings showing longitudinal sections of six different embodiments of the invention.

Fig. 1 is the first embodiment of the device according to the invention,
Fig. 2 is the second embodiment of the device,
Fig. 3 is the third embodiment of the device,
Fig. 4 is the fourth embodiment of the device,
Fig. 5 is the fifth embodiment of the device,
Fig. 6 is the sixth embodiment of the device.

Preferred Embodiments of the Invention.

[0007] The device for capping vessels (containers) in its first embodiment (Fig. 1) comprises a cork 1 located in the neck 2 of a vessel 3, a marked insert 4 and a protective coating 5, e.g., a translucent plastic cap. In this embodiment the protective coating 5 is continuous.

The second embodiment of the device (Fig. 2) comprises a cork 1 positioned in the neck 2 of a vessel 3, a marked insert 4 and a protective coating 5 with a muzzle 6.

The third embodiment of the device (Fig. 3) comprises a cork 1 and a marked insert 4 located in the neck 2, and a protective coating 5.

The fourth embodiment of the device (Fig. 4) comprises a twist-off cap 1 screwed on the neck 2, a marked insert 4 and a protective coating 5 having a window 7.

The fifth embodiment of the device (Fig. 5) comprises a twist-off cap 1 screwed on the neck 2 and having a protective belt 8. A seal 9 and a marked insert 4 are positioned in the cap 1.

The sixth embodiment of the device (Fig. 6) comprises a twist-off cap 1 screwed on the neck 2 and having a protective belt 8. A marked insert 4 and a seal 9 are placed in the cap 1. The bottom of the cap 1 has a window 7.

[0008] In any embodiment of the invention, the marked insert may be made in the form of an advertising carrier, and/or a counter, and/or a medal, and/or a game means.

[0009] The capping device is used as follows. When closing the vessel 3, the closing member 1, the marked insert 4 and the protective coating 5 (in the embodiments from the first to the fourth - Figs. 1 - 4) or (in the fifth and the sixth embodiments - Fig. 5 and Fig. 6) the protective belt 8 are mounted on the vessel neck 2

(in accordance with the particular embodiment of the invention). In this process, the marked insert is positioned either together with the respective closing member 1 (Figs. 1 - 4) or after mounting the closing member 1 (Figs. 5 - 6). In embodiments shown in Figs. 5 and 6, the marked insert 4 is first inserted in the respective cap 1 and covered with the seal 9. After that, the marked insert 4 is placed on the neck 2 together with the cap 1 and the protective belt 8.

Information about the placed marking insert 4 is applied to the label of the vessel 3.

The compliance of the contents of the vessel with those advertised by the manufacturer is checked by visual inspection of integrity of the protective coating 5 (Figs. 1 - 4) or integrity of the protective belt 8 (Figs. 5 and 6); by visual inspection of the marked insert 4 through the protective coating 5 (in case it is made translucent) or through window 7 (Figs. 4 and 6); by visual inspection of the withdrawn marked insert 4 after opening the vessel 3; by comparing information on the marked insert with that on the label.

If necessary, a check of authenticity of the insert 4 is carried out. On completion of checking, the withdrawn insert 4 is used for its other functional purpose according to the version of its initial construction, e.g., as an advertising carrier, a counter, a medal or a game means. The term "closing member" used in the above specification covers any closure means such as corks, caps, lids employed for closing bottles, jars, cans, capsules and other containers according to the principle as specified above.

[0010] The particular embodiments of the invention as described above are merely examples used for clarifying the essence of the invention. It is to be understood that the invention may be variously otherwise embodied within the scope of the invention as defined by the appended claims.

Industrial Applicability

[0011] The majority of individual components used in the invention (corks or caps 1, necks 2 of bottles 3, protective coatings 5, muzzles 6, protective belts 8, seals 9) have long been manufactured by the industry. Possible options of structures and materials for new components — marked inserts 4, windows 7 in protective coatings or in cap bottoms are described in detail in this specification. The process of joining these components is evidently easily carried out by widely used standard industrial means.

The actual attainment of the objectives of the invention is shown in detail in the specification of this invention, in sections "Attainment of the Objectives", "Disclosure of the Invention", "Embodiments of the Invention".

The invention is intended and can be advantageously used for capping vessels containing liquors, champagne, beverages, beer, juices, scent, perfume, corrosive or hazardous liquids or other contents. Vessels in-

clude bottles, jars, phials, capsules, cans, boxes or other containers.

Claims

1. A device for capping vessels including a closing member and a protective coating, **characterized in that** it has a marked insert located under the protective coating.
2. A device according to claim 1 **characterized in that** the marked insert is made in the form of a metal plate.
3. A device according to claim 1 **characterized in that** the marked insert bears registration information.
4. A device according to claim 1 **characterized in that** the protective coating is translucent or has a window for visual examination of the marked insert.
5. A device according to claim 1 **characterized in that** the marked insert is made as an advertising carrier.
6. A device according to claim 1 **characterized in that** the marked insert is made as a counter.
7. A device according to claim 1 **characterized in that** the marked insert is made as a medal.
8. A device according to claim 1 **characterized in that** the marked insert is made as a game means for individual-mass use.

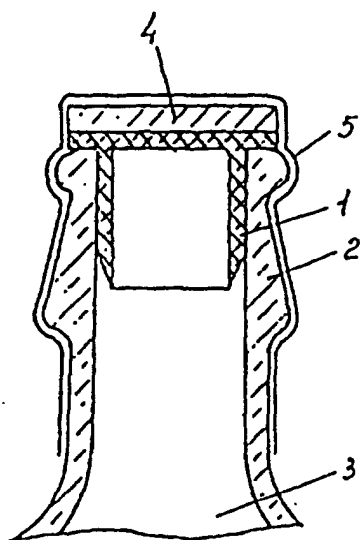


Fig.1

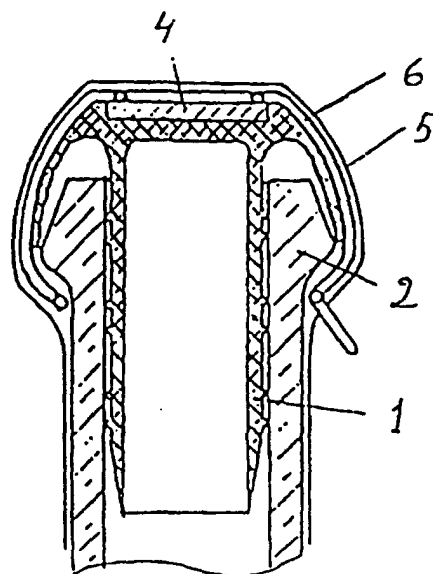


Fig. 2

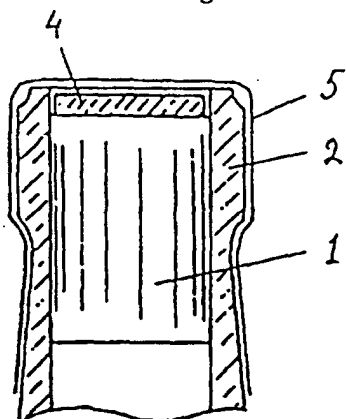


Fig.3

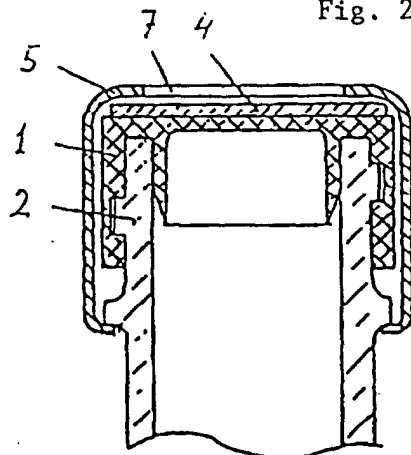


Fig.4

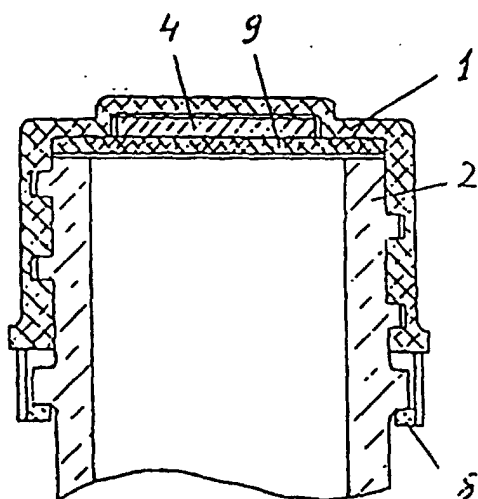


Fig.5

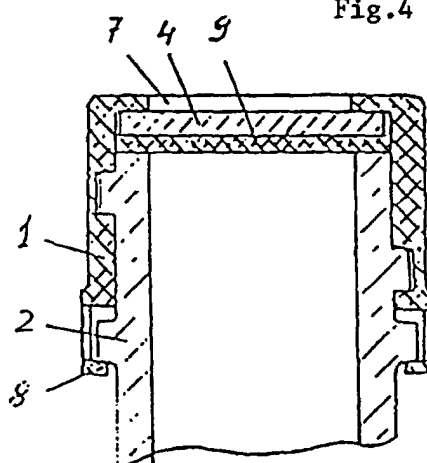


Fig.6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/RU 99/00360

A. CLASSIFICATION OF SUBJECT		
IPC6 B65D 39/00, 55/00		
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)		
IPC6 B65D 39/00, 55/00, 39/08; B44D 3/12		
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 practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2667576 A1 (PELLET JEAN PIERRE) 10 April 1992 (10.04.92)	1-8
A	RU 2102296C1 (FIRMA "VIS" et al) 20 January 1998 (20.01.98)	1-8
A	GB 1051071 A (MORINAGA SEIKA KABUSHIKI KAISHA) 14 December 1966 (14.12.66)	1-8
A	US 4682707 A (KEITH E. WILES) 28 July 1987 (28.07.87)	1-8
A	DE 1940102 A (MATZKA, JOHANN, WIEN) 4 January 1973 (04.01.73)	1-8
☐ Further documents are listed in the continuation of Box C. ☐ See patent family 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 17 January 2000 (17.01.00)		Date of mailing of the international search report 17 February 2000 (17.02.00)
Name and mailing address of the ISA/ RU Facsimile No.		Authorized officer Telephone No