A wire opener (1) for opening and closing of cans and other recipients, comprising a wire or band element (5) as an integral part of the cover (3) defined by a larger outer circumferential line of weakness (6) and another smaller circumferential line of weakness (7), with at least one suitably widened area (12) for placing the riveting, surrounding a tab (8) on said cover of the can or other recipient from one end of the shaft (9) of the base to the other end, with at least one rivet (10) joining the pull ring (2) at its projecting side (11), which serves as a lever for acting on a reinforcement point (14) of the cover (3) at the time of the manual pulling of the wire or band element (5) with said ring, to the part of the cover (3) containing the wire or band element (5).
Description

FIELD OF THE INVENTION

[0001] The present invention refers to a wire opener for opening and closing of cans and other recipients, of those which can be used to uncover one part of the surface of the cover of a can or other recipient, such as a hole, by means of the manual pulling of a pull ring joined to the covers of these recipients to allow access to the contents thereof and the subsequent closing as a possibility of protection for the case of storing the remaining contents.

[0002] Examples of such canned products to uncover and to store are the well-known condensed milk, olives and rice, or soft drinks in aluminum cans in the field dedicated to the presentation for food consumption, but also combustion motor oil or cooling liquid for said motors, etc.

[0003] Specifically, the wire opener object of the invention can be used to uncover canned contents and to store the remains thereof due to its progressive consumption, as long as the contents is liquid up to a certain point of viscosity, or solid with the proviso that, due to its granular structure, it is suitable for pouring.

BACKGROUND OF THE INVENTION

[0004] Until now, only those openers are known which are used by means of manual pulling with a device joined to the cover of a can or other recipient, such as a ring or the like, to uncover part or all of the surface thereof, the element known as the small plate or tab covering the pouring hole being useless in this operation, which hole is defined by a line of weakness, by the permanent joining of the ring or the like to the device through a rivet, or in that it is introduced inside the can or other recipient under the surface of the cover without the possibility of being recovered for subsequent closing of the uncovered hole.

However, there is no opener device providing a solution for the possibility of covering the pouring hole and storing the remaining unconsumed contents of the recipient after using the device for the manual pulling of the small plate or tab using the latter, and itself, remaining as part of the cover and moving about a shaft.

[0005] The need therefore exists for a wire opener for opening and closing of cans and other recipients, especially for cans containing liquid or solid food products, but also for recipients with any other contents which are usually presented as a product in cans or other recipients on the market, which provides the advantages of having a small size, applying inexpensive materials, being versatile to use and practical to handle, which allows the uncovering and closing for storing product remains without needing to resort to devices different from those incorporated in the can or other recipient, and which uses the small plate or tab and itself as a closing element. This is precisely the point where the present invention intervenes.

SUMMARY OF THE INVENTION

[0006] The wire opener developed by this invention comprises a wire or band element as an integral part of the cover of a can or other recipient, being defined by a larger outer circumferential line of weakness and another smaller inner circumferential line of weakness surrounding a tab on said cover from one end of the shaft of the base thereof to the other end, with at least one rivet joining the pull ring on the side thereof used as a lever to the part of the cover containing the wire or band element.

[0007] According to one aspect of the invention, the wire or band element as an integral part of the cover defined by a larger line of weakness and another smaller line of weakness comprises at least one suitably widened area for placing the riveting.

[0008] According to another aspect of the invention, the larger and smaller lines of weakness have points where they join together at their ends.

[0009] According to an additional aspect of the invention, the larger and smaller lines of weakness do not have points where they join together at their ends.

[0010] According to another additional aspect of the invention, the tab comprises a shaft at its base about which the movement for the opening and closing of the hole is carried out.

[0011] According to a further aspect of the invention, the pull ring comprises one side projecting into the riveting area and opposite to the ring which is used as a lever at the time of the manual pulling of the system.

[0012] According to another further aspect of the invention, the lever acts on a reinforcement point on the cover at the time of the manual pulling of the wire or band element with the pull ring.

[0013] According to an additional aspect of the invention, the rivet is located on the side opposite to the base of the tab in the center of the circumferential wire or band element.

[0014] According to another additional aspect of the invention, the rivets are located on both sides of the shaft in the base of the tab at the ends of the circumferential wire or band element.

[0015] According to a further aspect of the invention, the joining of the pull ring to the part of the cover containing the wire or band element is carried out with conventional riveting.

[0016] According to another further aspect of the invention, the pull ring comprises guides with rims on the inner side thereof with dimensions suitable for receiving the tab with its free sides and the covering of the band not covered by the latter once the wire or band element is pulled.

[0017] According to an additional aspect of the invention, the part constituting the pull ring can have any suitable shape which serves for the purpose thereof.

[0018] According to another additional aspect of the invention, the part constituting the wire or band element can have any suitable shape depending on the shape of...
the tab, which serves for the purpose thereof.

[0019] According to a further aspect of the invention, the parts constituting the system can be of any suitable material with sufficient rigidity, preferably of tin plate or plastic.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] The previous and other features and advantages of the invention will become more clearly evident from the following detailed description in relation to the attached schematic drawings, in which:

Figure 1 shows a plan view of a can cover with the pull ring joined thereto through two rivets located at the base of the tab, on the ends of the wire or band element.

Figure 2 shows a side elevation view of the cover of Figure 1.

Figure 3 shows a plan view of a can cover with the pull ring and the wire or band element, the small plate or tab with the shaft for the opening and closing movement at its base and the reinforcement point for the pull ring lever.

Figure 4 shows a plan view of a pull ring with the wire or band element, two side rivets and guides with rims on the inner side thereof.

Figure 5 shows a side elevation view of the pull ring of Figure 4.

Figure 6 shows a plan view of a cover of a can with the pull ring and the wire or band element covering the small plate or tab with its guides with rims on the inner side thereof.

Figure 7 shows a side elevation view of a cover of a can with the pull ring and the wire or band element covering the small plate or tab with its guides with rims on the inner side thereof and with the pouring hole uncovered.

Figure 8 shows a plan view of a can with the pull ring and wire or band element lifted up, the small plate or tab with the shaft for the opening and closing movement at its base and the reinforcement point for the pull ring lever.

Figure 9 shows a plan view of a pull ring with the wire or band element, a central rivet and guides with rims on the inner side thereof.

Figure 10 shows a side elevation view of the pull ring of Figure 9.

DETAILED DESCRIPTION OF THE INVENTION

[0021] In order to simplify the explanation, the following description will be made in relation to the use of the wire opener object of the invention for uncovering and storing cans of food.

[0022] However, this should not be interpreted as a limitation of the invention, but rather as an illustration thereof by way of example since, as mentioned before, the present container can have many other applications.

[0023] First, with reference to Figures 1 and 2 of the drawings, it can be seen that the wire opener object of the invention comprises a wire or band element (5) as an integral part of the cover (3), being defined by a larger outer circumferential line of weakness (6) and another smaller inner circumferential line of weakness (7) surrounding a tab (8) on said cover of the can or other recipient from one end of the shaft (9) of the base (15) thereof to the other end, with two rivets (10) joining the pull ring (2) at its projecting side (11), which is used as a lever, to the part of the cover (3) containing the wire or band element (5).

[0024] As can be seen in Figure 3, the tab (8), with the shaft (9) at base (15) thereof, remains on the cover of the can (3), the reinforcement point (14) as well as a slit of the hole (4) being visible, with its two suitably widened areas (12) for placing the riveting being uncovered by the manual pulling of the pull ring (2) with the wire or band element (5).

[0025] To use said wire opener, proceed to the manual pulling by introducing a finger into the pull ring (2) and pulling thereon by means of a decisive upwards movement.

[0026] The part constituting the wire opener device shown in Figures 4 and 5, with its pull ring (2), its projecting side (11) and its guides with rims (16) on the inner side thereof joined to the cover (3) by means of two rivets (10), remains loose together with the wire or band element (5) joined to the rivets (10) until the time of the pulling.

[0027] Once the separation is carried out by means of pulling, the tab (8) is then introduced with its free sides in the guides with their rims (16) of the wire opener device, as shown in Figure 6, the joining between the pull ring (2) and the tab (8) acting as an element to cover and uncover the hole (4) with opening and closing movements about the shaft (9) at base (15) of the tab (8), as can be seen in Figure 7.

[0028] Figures 8 to 10 show a second embodiment of the wire opener object of the invention, in which a single rivet is used.

[0029] As can be seen in Figure 8, the tab (8) with the shaft (9) at base (15) remains on the cover of the can (3), both the reinforcement point (14) as well as a slit of the hole (4) being visible, with its suitably single widened area (12) for placing the riveting, uncovered by the manual pulling of the pull ring (2) with the wire or band element (5).

[0030] To use said wire opener, first proceed, as in the previous embodiment, to the manual pulling by introducing a finger into the pull ring (2) and pulling thereon by means of a decisive upwards movement.

[0031] The part constituting the wire opener device shown in Figures 9 and 10, with its pull ring (2), its projecting side (11) and its guides with rims (16) on the inner side thereof joined to the cover (3) by means of a single rivet (10) until the time of pulling, remains loose together
with the wire or band element (5) joined to the rivet (10).

[0032] Once the separation is has been carried out by means of pulling, the tab (8) is then introduced with its free sides in the guides with their rims (16) of the wire opener device in a manner identical to that shown in Figure 6, the joining between the pull ring (2) and the tab (8) also serving in this embodiment as an element for covering and uncovering the hole (4) with an opening and closing movement about the shaft (9) at the base (15) of the tab (8), as in Figure 7.

[0033] Evidently, the use of the wire opener object of the invention for tasks other than opening and closing cans of food, would be developed in the same manner described above, i.e. once the manual pulling has been carried out by means of a decisive upwards movement, the rest of the product is then stored, the joining between the pull ring (2) and the tab (8) serving as an element for covering and uncovering the hole (4).

[0034] The invention has thus created a wire opener providing several advantages, among which the following can be pointed out:

- Simple structure and, as a result, easy to use.
- Practical use due to application universality and versatility.
- Use of inexpensive materials, such as tin plate and plastics.
- Aesthetic presentation form, since while waiting to be used for the first time as well as being used subsequently for storing the remaining unconsumed contents, the wire opener provides an appearance of completeness.

[0035] The previous description has been focused on the essential features of the invention. However, it is understood that the opener described could be object of modifications in the shape and structure thereof without distancing itself from the invention. Therefore, the intention is that the scope of the latter is limited only by the contents of the attached claims.

Claims

1. A wire opener (1) for opening and closing of cans and other recipients, of which those, by means of the manual pulling of a pull ring (2) joined to the covers of said recipients, uncover a part of the surface of the cover (3) of the can or other recipient, such as a hole (4), for allowing access to the contents thereof and subsequent closing as a possibility of protection for the case of storing the remaining contents, characterized in that it comprises a wire or band element (5) as an integral part of the cover (3) defined by a larger outer circumferential line of weakness (6) and another smaller inner circumferential line of weakness (7), surrounding a tab (8) on said cover of the can or other recipient from one end of the shaft (9) of the base thereof to the other end, with at least one rivet (10) joining the pull ring (2), at its projecting side (11), which serves as a lever, to the part of the cover (3) containing the wire or band element (5).

2. A wire opener (1) according to claim 1, characterized in that the wire or band element (5), as an integral part of the cover (3) defined by a larger line of weakness (6) and another smaller line of weakness (7), comprises at least one suitably widened area (12) for placing the riveting.

3. A wire opener (1) according to claims 1 and 2, characterized in that the larger line of weakness (6) and smaller line of weakness (7) have points (13) where they join together at their ends.

4. A wire opener (1) according to claims 1 and 2, characterized in that the larger line of weakness (6) and smaller line of weakness (7) do not have points where they join together at their ends.

5. A wire opener (1) according to claims 1 to 4, characterized in that the tab (8) comprises a shaft (9) at its base about which the movement for opening and closing the hole (4) is carried out.

6. A wire opener (1) according to claims 1 to 5, characterized in that the pull ring (2) comprises a projecting side (11) projecting into the riveting area and opposite to the ring (2), which serves as a lever at the time of the manual pulling of the system.

7. A wire opener (1) according to claims 1 to 6, characterized in that the lever of the projecting side (11) acts on a reinforcement point (14) on the cover (3) at the time of the manual pulling of the wire or band element (5) with the pull ring (2).

8. A wire opener (1) according to claims 1 to 7, characterized in that the rivet (10) is located on the side opposite to the base (15) of the tab (8) in the center of the wire or band element (5) in circumference.

9. A wire opener (1) according to claims 1, 2, 3, 5, 6 and 7, characterized in that the rivets (10) are located on both sides of the shaft (9) at the base (15) of the tab (8) at the ends of the wire or band element (5) in circumference.

10. A wire opener (1) according to claims 1 to 9, characterized in that the joining of the pull ring (2) to the portion of the cover (3) containing the wire or band element (5) is carried out with conventional riveting.

11. A wire opener (1) according to the preceding claims, characterized in that the pull ring (2) comprises guides with rims (16) on the inner side thereof with
suitable dimensions for receiving the tab (8) with its free sides and the covering of the band not covered by the latter once the wire or band element (5) has been pulled.

12. A wire opener (1) according to any of the preceding claims, characterized in that the part constituting the pull ring (2) can have any suitable shape which serves for the purpose thereof.

13. A wire opener (1) according to any of the preceding claims, characterized in that the part constituting the wire or band element (5) can have any suitable shape depending on the shape of the tab (8), which serves for the purpose thereof.

14. A wire opener (1) according to any of the preceding claims, characterized in that the parts constituting the system can be of any suitable material of sufficient rigidity, preferably of tin plate or plastic.
# INTERNATIONAL SEARCH REPORT

**A. CLASSIFICATION OF SUBJECT MATTER**

**IPC7 B65D 17/34**

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)

**IPC7 B65D**

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)

**CIBEPAT, EPODOC, WPI, PAJ**

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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* Further documents are listed in the continuation of Box C.  

**X** See patent family annex.

- "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 and not in conflict with the application but cited to understand the principle or theory underlying the invention.
- "F" document published prior to the international filing date but later than the priority date claimed.
- "G" 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.
- "H" 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.
- "L" 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.
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**Date of the actual completion of the international search**

06 May 2004 (06.05.04)

**Date of mailing of the international search report**

12 May 2004 (12.05.04)

**Name and mailing address of the IBA/**

S.P.T.O.

**Facsimile No.**

Authorized officer

Telephone No.

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