

Description

This invention relates to can openers.

In particular the invention relates to a hand-held can opener intended to provide a cut around the wall of the can below the lid and rim which are severed by the cut from the rest of the can, the can opener comprising a pair of body members pivotally joined to one another, each body member having an integrally-formed handle extending generally away from the point of pivoting and movable between a more open position and a more closed position, the handles being intended to be grasped by one hand of the user in the more closed position, a spindle to which is attached a driving wheel to be brought into contact with the lip of the lid of a can, the spindle being manually rotatable to cause the driving wheel to orbit the can opener relatively around the top of the can, and a cutting wheel which, in an operating cutting position, forms a nip with the driving wheel so that the cutting edge of the cutting wheel is forced to penetrate through the wall of the can and provide a cut around the can as the opener orbits relatively around the can, the cutting wheel is rotatably mounted on a mounting plate, the plate being movable between the operating cutting position where the driving wheel forces the cutting edge of the cutting wheel to penetrate the can wall and an inoperative position where the cutting wheel is moved away from the driving wheel and cam means for moving the mounting plate and the supported cutting wheel to the operating cutting position as the handles are pivoted towards the more closed position and moving the cutting wheel away to its inoperative position when the handles are pivoted away from that said limit of pivoting towards the more open position.

Although many different designs of can openers are known, very few work really satisfactorily. In many instances, the cutting edge is liable to become jammed and a ragged cut given which can be dangerous to the user. Also small filings of metal may be generated which contaminate the contents of the can.

United States Patent Specification No. 1 914 738 shows a can opener of this type. The cutter wheel is held insecurely so that under the effect of the large forces exerted during cutting the rotational axis of the cutting wheel can be displaced and distorted and a ragged and non-uniform cut given.

It is therefore an object of this invention to provide an improved can opener which functions well and simply.

According to the invention the hand-held can opener is characterised in that the mounting plate is slidably supported by one of the body members, and the cam means include, between the mounting plate and the other body member, i.e. the one which does not slidably support the mounting plate, a slot inclined at an angle to the axis of sliding of the mounting plate and a pin projecting into that slot.

Such a can opener has been found to give a

good clean cut without ragged edges and substantially without the formation of dangerous metal filings. In addition, the can opener can usually operate successfully even if the can is quite seriously damaged and dented. Further the can opener will work both on conventional cylindrical shaped tins and on tins of other shapes, e.g. oval or square.

Preferably the axis of the manually rotatable spindle on which the driving wheel is mounted coincides with the axis of pivoting of the two body members.

The cam means bring the cutting wheel to its operative cutting position upon quite a small angular pivoting movement of the body portions, e.g. a maximum opening of 30°. Thus the pivoting of the body members can be limited in extent. This has advantages over, for example, the can opener described in our co-pending United Kingdom Application No. 8303320, publication No. 2118134, where it is necessary to pivot the handles over about 180° in order to open up the cutting nip between the driving wheel and the cutting wheel.

The cam means comprise a slot, e.g. a substantially straight slot, inclined at an angle to the axis of sliding of the mounting plate and formed in the other body member, i.e. the one which does not slidably support the mounting plate, and a pin projecting from the mounting plate into that slot, although the positioning of the slot and pin could be reversed. The slot is preferably angled at around 75° to the direction of the sliding of the plate in the more closed position of the handles but this angle could, for example, vary from 80 to 60°. In fact by forming the slot on the said other body member, the relative angle of the slot to the direction of sliding of the plate will vary as the handles move between their more closed position and their more open position. Thus the angle will become larger as the handles move from the more closed position to the more open position and the mechanical advantage will also vary. This has the advantage that as the handles are closed from their more open position, the plate will advance the cutter wheel relatively rapidly initially but as the cutter wheel approaches the can, it will advance more slowly and a relatively larger force exerted to penetrate the can wall.

Preferably an upstanding guard is integrally formed on the said other body member, the guard protecting the user from accidentally touching the cutting wheel.

Preferably there is an abutment upstanding from the said other body member which acts to eject or release a severed can lid from the nip between the cutting wheel and the driving wheel as the cutting wheel moves to its inoperative position. This could be an edge inclined to the direction of movement of the cutting wheel between its operative and inoperative positions, that edge being, for example, constituted by the ends of the upstanding guard. Alternatively the knife could retract into a pouch whose open edge constitutes that said edge.

(12)

The driving wheel and the spindle to which it is connected can be manually driven, e.g. by means of a two-armed crank attached to the free end of the spindle. Alternatively, the can opener could be a hand-held electric can opener and the spindle could be motor driven with one of the handles including additionally a housing for the electric motor.

A can opener according to the invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a front view of a can opener according to the invention shown in its closed operative position;

Figure 2 is a side view of the can opener shown in Figure 1;

Figure 3 is a view similar to Figure 1 but with the can opener in its open non-operative position;

Figure 4 is a section taken on the line 4—4 of Figure 1;

Figure 5 is an elevation of one of the body members shown separately from the rest of the can opener; and

Figure 6 is a view showing the can opener in use in opening a can.

The can opener 10 shown in the drawings includes two body portions 12 and 14. The two portions are pivoted to one another about a circular upstanding hollow spigot 15 on the portion 12 which extends into a circular hole 15a on the portion 14. Extending axially through the spigot 15 and hole 15a is a spindle 16 (Figure 4). The body portions are therefore pivotable between a closed working position shown in Figure 1 and an open position shown in Figure 3.

The body portions 12 and 14 each include an integral handle 12a and 14a, respectively, extending generally away from the axis of the spindle 16 such that they lay closely alongside and parallel to one another in the closed position shown in Figure 1. Conveniently the two body portions are moulded from synthetic plastics material, e.g. polypropylene.

Integrally formed at one end of the spindle is a two-armed crank 20 for use in manually rotating it. Axially embedded in the spindle is a metal reinforcing shaft 22, one end of which latter extends slightly beyond the end of the spindle 16 and is attached to a driving wheel 24. The latter is dish-shaped and has an outer toothed edge 26 capable of frictionally engaging the lip 28 of the lid 27 of a can 29 (Figure 6) and driving the can opener around the can during opening.

Slidably mounted in the body portion 12 is a rectangular metal plate 30 constrained to move along an axis 30a (see Figure 5). Extending outwardly from one face of the plate is a pin 32 on which is rotatably mounted a sleeve 34 of synthetic plastics material. Rotatably connected to the sleeve and positioned outwardly of it is a metal cutting wheel 36 having a pointed circular cutting edge 37. The sleeve 34 is intended to bear against the lip of the can and be rotated as the can opener advances around the can, the cutting

wheel 36 being rotated at the same time because of its rotatable connection with the sleeve. A washer 38 is positioned outside the cutting wheels, and the sleeve 34, wheel 36 and washer 38 are held in place by the riveting over of the end of the pin 32.

Integrally formed with the body portion 12 is an upstanding U-shaped guard 39. This shields the cutting wheel to prevent the user from accidentally cutting himself. The guard 39 has at its ends edges 39a which are inclined to the axis 30a. At the end of a can opening operation the severed lid is trapped and held between the cutting wheel 36 and driving wheel 24. Therefore, as the cutting wheel is withdrawn after a can has been opened, the lid of the can will abut these edges 39a and be forced from beneath the edge of the cutting wheel 36 and so automatically released for disposal.

Projecting from the opposite face of the plate 30 is a cam pin 40. This engages in a slot 44 formed in the body portion 14. The slot is substantially straight and inclined at about 75° to the axis 30a in the closed position of the handles so that, as the handles 12a and 14a are moved between the open position shown in Figure 3 and the closed position shown in Figure 1, the plate 30 is cammed from a lower position to an upper operating position shown in Figure 4. As a result the cutting wheel 36 also moves from its non-operating position shown in Figure 3 where its cutting edge 37 is spaced sufficiently from the driving wheel 24 for it to fit over the lip 28 of a can 29 to its operating and cutting position shown in Figure 1 where the cutting edge 37 slightly overlaps the driving wheel 26.

Because the slot 44 is formed on the body member 14, the relative angle of the slot to the direction of sliding of the plate 30 will vary as the handles move between their more closed position and their more open position. Thus the angle will become larger as the handles move from the more closed position to the more open position and the mechanical advantage will also vary. This has the advantage that as the handles are closed from their more open position, the plate will advance the cutter wheel relatively rapidly initially but as the cutter wheel approaches the can, it will advance more slowly and a relatively larger force exerted to penetrate the can wall.

This cutting position is also shown in Figure 6 and the cutting edge 37 is there shown as penetrating the top edge of the cylindrical wall of the can just beneath the lid 27. Therefore, upon rotation of the crank 20, the can opener 10 is driven in a circular orbit around the top of the can in the case of a cylindrical can and a circular cut is made in the cylindrical wall of the can near its top. Once a circular cut is complete, the top of the can can be lifted cleanly off and is held trapped between the cutting wheel 36 and driving wheel 24 until the handles are brought into the open position shown in Figure 3 when the top is ejected by contact with the edges 39a.

A metal plate 45 is embedded in the face of the body portion 12 to provide protection for the

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plastic material of the body when it comes into contact with a rim of a can during opening. The surface of the metal plate 45 is slightly proud relative to the body portion 12.

To assist in maintaining the position of the can opener during its cutting, a small lug 46 is integrally formed with the portion 12 and extends generally parallel to the axis of the spindle 16. Its end bears on the top of the lid 27 and keeps the can opener relatively level.

The can opener 10 is simple to make and operate and the can also be kept clean and hygienic.

Claims

1. A hand-held can opener (10) intended to provide a cut around the wall of the can (29) below the lid and rim which are severed by the cut from the rest of the can, the can opener (10) comprising a pair of body members (12, 14) pivotally joined to one another, each body member having an integrally-formed handle (12a, 14a) extending generally away from the point of pivoting and movable between a more open position and a more closed position, the handles (12a, 14a) being intended to be grasped by one hand of the user in the more closed position, a spindle (16) to which is attached a driving wheel (24) to be brought into contact with the lip of the lid (27) of a can (29), the spindle being manually rotatable to cause the driving wheel to orbit the can opener relatively around the top of the can, and a cutting wheel (36) which, in an operating cutting position, forms a nip with the driving wheel (24) so that the cutting edge (37) of the cutting wheel (36) is forced to penetrate through the wall of the can and provide a cut around the can as the opener orbits relatively around the can (29), the cutting wheel (36) is rotatably mounted on a mounting plate (30), the plate (30) being movable between the operating cutting position where the driving wheel (24) forces the cutting edge (37) of the cutting wheel (36) to penetrate the can wall and an inoperative position where the cutting wheel (36) is moved away from the driving wheel (24), and cam means for moving the mounting plate (30) and the supported cutting wheel (36) to the operating cutting position as the handles (12a, 14a) are pivoted towards the more closed position and moving the cutting wheel (36) away to its inoperative position when the handles (12a, 14a) are pivoted away from that said limit of pivoting towards the more open position, characterised in that the mounting plate (30) is slidably supported by one of the body members (12), and the cam means include, between the mounting plate (30) and the other body member (14), i.e. the one which does not slidably support the mounting plate (30), a slot (44) inclined at an angle to the axis (30a) of sliding of the mounting plate (30) and a pin (40) projecting into that slot (44).

2. A can opener as claimed in Claim 1 characterised in that the slot (44) is substantially straight and inclined at an angle of from 80° to 60° to the axis (30a) of sliding of the mounting plate (30).

3. A can opener as claimed in Claim 1 or Claim 2 characterised in that the axis of the spindle (16) coincides with the axis of pivoting of the two body members (12, 14).

4. A can opener as claimed in any of claims 1 to 3 characterised in that an upstanding guard (39) is integrally formed on the said one body member (12), the guard (39) protecting the user from accidentally touching the cutting wheel (36).

5. A can opener as claimed in any preceding claim characterised in that an abutment (39) upstanding from the said one body member (12) acts to eject a severed can lid from the nip between the cutting wheel (36) and the driving wheel (24) as the cutting wheel (36) moves to its inoperative position.

6. A can opener as claimed in Claim 4 characterised in that the end or ends of the guard (39) include an edge (39a) inclined to the direction of movement of the cutting wheel (36) between its operative and inoperative positions, that inclined edge (39a) acting to eject a severed can lid from the nip between the cutting wheel (36) and the driving wheel (24) as the cutting wheel (36) moves to its inoperative position.

Patentansprüche

1. In der Hand zu haltender Dosenöffner (10) zur Erzielung eines Schnittes um die Wand der Dose (29) unterhalb des Deckels und des Randes, der durch den Schnitt vom Rest der Dose getrennt wird, wobei der Öffner (10) ein paar Hauptteile (12, 14) aufweist, die schwenkbar miteinander verbunden sind und wobei jedes Hauptteil einen einstückig geformten Handgriff (12a, 14a) aufweist, der sich im wesentlichen weg von dem Schwenkpunkt erstreckt und die zwischen einer mehr offenen und einer mehr geschlossenen Position bewegbar sind, wobei die Handgriffe (12, 14a) so ausgebildet sind, daß sie von einer Hand des Benutzers in der mehr geschlossenen Stellung haltbar sind, der ferner eine Spindel (16) aufweist, die mit einem Antriebsrad (24) verbunden ist, das in Kontakt mit der Deckellippe (27) der Dose (29) bringbar ist, wobei die Spindel manuell drehbar ist, um mittels des Antriebsrades den Dosenöffner relativ um den oberen Bereich der Dose herum zu bewegen und mit einem Schneidrad (36), das in der Schneidposition mit dem Antriebsrad (24) einen Walzenspalt bildet, so daß die Schneidkante (37) des Schneidrades (36) durch die Wand der Dose gedrückt wird und einen Schnitt um die Dose herbeiführt, wenn der Öffner relativ um die Dose (29) umläuft, wobei ferner das Schneidrad (36) drehbar an einer Befestigungsplatte (30) angebracht ist und diese Platte (30) zwischen einer Schneidarbeitsposition, in der das Antriebsrad (24) die Schneidkante (37) des Schneidrades (36) in die Dosenwand eindrückt und einer Ruhestellung, in der das Schneidrad (36) von dem Antriebsrad (24) weg bewegt wird, bewegbar ist und wobei eine Nockensteuerung vorgesehen ist, die die Befestigungsplatte (30) und das damit verbundene Schneidrad (36) in die Schneidarbeitsposition bewegt, wenn die Hand-

plastic material of the body when it comes into contact with a rim of a can during opening. The surface of the metal plate 45 is slightly proud relative to the body portion 12.

To assist in maintaining the position of the can opener during its cutting, a small lug 46 is integrally formed with the portion 12 and extends generally parallel to the axis of the spindle 16. Its end bears on the top of the lid 27 and keeps the can opener relatively level.

The can opener 10 is simple to make and operate and the can also be kept clean and hygienic.

Claims

1. A hand-held can opener (10) intended to provide a cut around the wall of the can (29) below the lid and rim which are severed by the cut from the rest of the can, the can opener (10) comprising a pair of body members (12, 14) pivotally joined to one another, each body member having an integrally-formed handle (12a, 14a) extending generally away from the point of pivoting and movable between a more open position and a more closed position, the handles (12a, 14a) being intended to be grasped by one hand of the user in the more closed position, a spindle (16) to which is attached a driving wheel (24) to be brought into contact with the lip of the lid (27) of a can (29), the spindle being manually rotatable to cause the driving wheel to orbit the can opener relatively around the top of the can, and a cutting wheel (36) which, in an operating cutting position, forms a nip with the driving wheel (24) so that the cutting edge (37) of the cutting wheel (36) is forced to penetrate through the wall of the can and provide a cut around the can as the opener orbits relatively around the can (29), the cutting wheel (36) is rotatably mounted on a mounting plate (30), the plate (30) being movable between the operating cutting position where the driving wheel (24) forces the cutting edge (37) of the cutting wheel (36) to penetrate the can wall and an inoperative position where the cutting wheel (36) is moved away from the driving wheel (24), and cam means for moving the mounting plate (30) and the supported cutting wheel (36) to the operating cutting position as the handles (12a, 14a) are pivoted towards the more closed position and moving the cutting wheel (36) away to its inoperative position when the handles (12a, 14a) are pivoted away from that said limit of pivoting towards the more open position, characterised in that the mounting plate (30) is slidably supported by one of the body members (12), and the cam means include, between the mounting plate (30) and the other body member (14), i.e. the one which does not slidably support the mounting plate (30), a slot (44) inclined at an angle to the axis (30a) of sliding of the mounting plate (30) and a pin (40) projecting into that slot (44).

2. A can opener as claimed in Claim 1 characterised in that the slot (44) is substantially straight and inclined at an angle of from 80° to 60° to the axis (30a) of sliding of the mounting plate (30).

3. A can opener as claimed in Claim 1 or Claim 2 characterised in that the axis of the spindle (16) coincides with the axis of pivoting of the two body members (12, 14).

4. A can opener as claimed in any of claims 1 to 3 characterised in that an upstanding guard (39) is integrally formed on the said one body member (12), the guard (39) protecting the user from accidentally touching the cutting wheel (36).

5. A can opener as claimed in any preceding claim characterised in that an abutment (39) upstanding from the said one body member (12) acts to eject a severed can lid from the nip between the cutting wheel (36) and the driving wheel (24) as the cutting wheel (36) moves to its inoperative position.

6. A can opener as claimed in Claim 4 characterised in that the end or ends of the guard (39) include an edge (39a) inclined to the direction of movement of the cutting wheel (36) between its operative and inoperative positions, that inclined edge (39a) acting to eject a severed can lid from the nip between the cutting wheel (36) and the driving wheel (24) as the cutting wheel (36) moves to its inoperative position.

Patentansprüche

1. In der Hand zu haltender Dosenöffner (10) zur Erzielung eines Schnittes um die Wand der Dose (29) unterhalb des Deckels und des Randes, der durch den Schnitt vom Rest der Dose getrennt wird, wobei der Öffner (10) ein paar Hauptteile (12, 14) aufweist, die schwenkbar miteinander verbunden sind und wobei jedes Hauptteil einen einstückig geformten Handgriff (12a, 14a) aufweist, der sich im wesentlichen weg von dem Schwenkpunkt erstreckt und die zwischen einer mehr offenen und einer mehr geschlossenen Position bewegbar sind, wobei die Handgriffe (12, 14a) so ausgebildet sind, daß sie von einer Hand des Benutzers in der mehr geschlossenen Stellung haltbar sind, der ferner eine Spindel (16) aufweist, die mit einem Antriebsrad (24) verbunden ist, das in Kontakt mit der Deckellippe (27) der Dose (29) bringbar ist, wobei die Spindel manuell drehbar ist, um mittels des Antriebsrades den Dosenöffner relativ um den oberen Bereich der Dose herum zu bewegen und mit einem Schneidrad (36), das in der Schneidposition mit dem Antriebsrad (24) einen Walzenspalt bildet, so daß die Schneidkante (37) des Schneidrades (36) durch die Wand der Dose gedrückt wird und einen Schnitt um die Dose herbeiführt, wenn der Öffner relativ um die Dose (29) umläuft, wobei ferner das Schneidrad (36) drehbar an einer Befestigungsplatte (30) angebracht ist und diese Platte (30) zwischen einer Schneidarbeitsposition, in der das Antriebsrad (24) die Schneidkante (37) des Schneidrades (36) in die Dosenwand eindrückt und einer Ruhestellung, in der das Schneidrad (36) von dem Antriebsrad (24) weg bewegt wird, bewegbar ist und wobei eine Nockensteuerung vorgesehen ist, die die Befestigungsplatte (30) und das damit verbundene Schneidrad (36) in die Schneidarbeitsposition bewegt, wenn die Hand-



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griffe (12a, 14a) aufeinander zu in die mehr geschlossene Position bewegt werden und die das Schneidrad (36) in die Ruhestellung bewegt, wenn die Handgriffe (12a, 14a) von dieser Begrenzung in die mehr offene Position bewegt werden, dadurch gekennzeichnet, daß die Befestigungsplatte (30) gleitend in einem der Hauptteile (12) gelagert ist und daß die Nockensteuerung zwischen der Befestigungsplatte (30) und dem anderen Hauptteile (14), d.h. dem Teil, das die Befestigungsplatte (30) nicht gleitend aufnimmt, einen Schlitz (44), der unter einem Winkel zur Achse (30a) der Gleitbewegung der Befestigungsplatte (30) geneigt ist und einen Stift (40) aufweist, der in den Schlitz (44) vorspringt.

2. Dosenöffner nach Anspruch 1, dadurch gekennzeichnet, daß der Schlitz (44) im wesentlichen gerade und unter einem Winkel von 80° bis 60° zur Achse (30a) der Gleitbewegung der Befestigungsplatte (30) geneigt ist.

3. Dosenöffner nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß die Achse der Spindel (16) mit der Schwenkachse der beiden Hauptteile (12, 14) Übereinstimmt.

4. Dosenöffner nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß ein aufrechtstehender Schutz (39) einstückig an dem einen Hauptteil (12) ausgebildet ist, wobei dieser Schutz (39) den Benutzer davor bewahrt, das Schneidrad versehentlich zu berühren.

5. Dosenöffner nach einem der vorstehenden Ansprüche, dadurch gekennzeichnet, daß ein aufrechtstehendes Auflager (39) an dem einen Hauptteil (12) vorgesehen ist, das dazu dient einen abgetrennten Deckel von dem Walzspalt zwischen dem Schneidrad (36) und um Antriebsrad (24) auszuwerfen, wenn das Schneidrad (36) sich in seine Ruhestellung bewegt.

6. Dosenöffner nach Anspruch 4, dadurch gekennzeichnet, daß das Ende oder Enden des Schutzes (39) eine Kante (39a) aufweisen, die zur Bewegungsrichtung des Schneidrades (36) zwischen der Arbeits- und der Ruhestellung geneigt ist, und daß die geneigte Kante (39a) zum Auswurf des abgetrennten Dosendeckels aus dem Walzspalt zwischen dem Schneidrad (36) und dem Antriebsrad (24) dient, wenn das Schneidrad sich in die Ruhestellung bewegt.

Revendications

1. Ouvre-boîtes manuel (10) destiné à pratiquer und découpe sur le pourtour de la paroi de la boîte (29) au-dessous du couvercle et du rebord qui sont séparés par la découpe du reste de la boîte, l'ouvre-boîtes (10) comprenant un corps en deux parties (12, 14) articulées l'une à l'autre de façon à pouvoir pivoter, chaque partie ayant la forme d'une poignée d'un seul tenant (12a, 14a), s'allongeant dans une direction générale d'éloignement depuis le point d'articulation et pouvant se déplacer entre une position plus ouverte et une position plus fermée, les poignées (12a, 14a) étant destinée à être saisies d'une main par l'utilisateur dans la position plus fermée, un axe (16) sur

lequel est fixée une roue d'entraînement (24) devant être amenée au contact du bord du couvercle (27) d'une boîte (29), l'axe pouvant être entraîné manuellement en rotation, de telle façon que la roue d'entraînement fait effectuer à l'ouvre-boîtes un mouvement relatif autour du haut de la boîte, une roue tranchante (36) qui, dans une position de découpage active, forme un interstice avec la roue d'entraînement (24), ce qui fait pénétrer le tranchant (37) de la roue tranchante (36) à travers la paroi de la boîte et lui fait former une découpe sur le pourtour de la boîte, à mesure que l'ouvre-boîtes effectue son mouvement relatif autour de la boîte (29), une plaque de montage (30) sur laquelle la roue tranchante (36) est montée de façon à pouvoir tourner, cette plaque pouvant se déplacer entre la position de découpage active dans laquelle la roue d'entraînement (24) fait pénétrer le tranchant (37) de la roue tranchante (36) dans la paroi de la boîte et une position inactive dans laquelle la roue tranchante (36) est éloignée de la roue d'entraînement (24), et un ensemble de came destiné à amener la plaque (30) et la roue tranchante (36) qu'elle supporte dans la position de découpage, lorsqu'on fait pivoter les poignées vers la position plus fermée, et à éloigner la roue tranchante (36) dans sa position inactive, lorsqu'on fait pivoter les poignées (12a, 14a) en les éloignant de ladite limite de pivotement pour les rapprocher de la position plus ouverte, caractérisé en ce que la plaque de montage (30) est supportée, coulissante, sur l'une des parties de corps (12) et que l'ensemble de came comprend, entre la plaque de montage (30) et l'autre partie de corps (14), c'est-à-dire celle qui ne supporte pas la plaque de montage coulissante (30), une rainure (44) inclinée d'un certain angle par rapport à l'axe de coulissement (30a) de la plaque de montage (30) et un ergot (40) se projetant dans la rainure (44).

2. Ouvre-boîtes selon la revendication 1, caractérisé en ce que la rainure (44) est pratiquement rectiligne et qu'elle fait un angle de 80 à 60° avec l'axe de coulissement (30a) de la plaque de montage (30).

3. Ouvre-boîtes selon la revendication 1 ou 2, caractérisé en ce que l'axe géométrique de l'axe (16) coïncide avec l'axe de pivotement des deux parties de corps (12, 14).

4. Ouvre-boîtes selon l'une quelconque des revendications 1 à 3, caractérisé en ce qu'une protection rigide (39) est formée d'un seul tenant sur la première partie (12) du corps, cette protection (39) empêchant l'utilisateur de toucher accidentellement la roue tranchante (36).

5. Ouvre-boîtes selon l'une quelconque des revendications précédentes, caractérisé en ce qu'il comprend une butée (39) qui s'élève de la première partie de corps (12), ayant pour rôle d'éjecter un couvercle de boîte découpé de l'interstice compris entre la roue tranchante (36) et la roue d'entraînement (24), lorsque la roue tranchante (36) rejoint sa position inactive.

6. Ouvre-boîtes selon la revendication 4, caractérisé en ce que l'extrémité ou les extrémités



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de la protection (39) comprennent un bord (39a) incliné par rapport à la direction de déplacement de la roue tranchante (36) entre sa position active et sa position inactive, le bord incliné (39a) ayant

pour rôle d'éjecter un couvercle de boîte découpé de l'interstice compris entre la roue tranchante (36) et la roue d'entraînement (24), lorsque la roue tranchante (36) rejoint sa position inactive.

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