



(11) **EP 1 362 540 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention
of the grant of the patent:
09.01.2008 Bulletin 2008/02

(51) Int Cl.:
A47K 5/122 (2006.01)

(21) Application number: **02076923.8**

(22) Date of filing: **14.05.2002**

(54) **Liquid detergent dispenser**

Spendervorrichtung für ein flüssiges Waschmittel

Distributeur de détergent liquide

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

(43) Date of publication of application:
19.11.2003 Bulletin 2003/47

(73) Proprietor: **QTS S.r.L.**
20040 Caponago (MI) (IT)

(72) Inventor: **Niada, Gianandrea**
20123 Milano MI (IT)

(74) Representative: **Concone, Emanuele et al**
Società Italiana Brevetti S.p.A.
Via Carducci 8
20123 Milano (IT)

(56) References cited:
EP-A- 0 530 789 **US-A- 3 540 630**
US-A- 4 673 109

EP 1 362 540 B1

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).

Description

[0001] The present invention relates to liquid detergent dispensers, and in particular to a dispenser with replaceable and/or rechargeable cartridge.

[0002] It is known that there are many types of liquid detergent dispensers for public premises, hotels and the like, in which the detergent is contained in a cartridge housed inside a wall-mounted dispensing apparatus.

[0003] In this type of dispensers the apparatus includes a dispensing device, typically operated through a lever or a pushbutton, while the cartridge only has the function of containing the detergent and when empty it is replaced with another cartridge. Therefore the dispensing device remains mounted on the apparatus and is always the same, which gives rise to some drawbacks.

[0004] A first drawback stems from the possibility that said device fails or gets clogged thus making impossible to dispense the detergent, while a second drawback is given by the difficulty in replacing a type of detergent with another having different chemical-physical properties (e.g. viscosity) which make the device inadequate for dispensing the new detergent.

[0005] On the other hand there are the well-known disposable dispensers simply consisting of a bottle with a dispensing pump mounted thereon, but these dispensers are not generally used in these situations since they can easily be carried off by the users.

[0006] EP-0530789-A1 discloses a liquid detergent dispenser comprising all of the features of the preamble of claim 1 and in particular comprising a wall-mounted C-shaped holder for a replaceable supply container that includes an internal dispensing device operated by pressing the flexible walls of the container, said container being mounted on the holder by introducing it into a top cap integral with the holder and a bottom sleeve that is locked thereon. However, due to the C shape of the holder consequent to the need to press the container on both sides, the elongated and flexible supply container can be bent out of engagement with the cap and extracted from the holding sleeve and thus the dispenser has a poor anti-theft capacity.

[0007] Therefore the object of the present invention is to provide a dispenser which is free from said drawbacks. This object is achieved by means of a dispenser comprising the features of claim 1. Other advantageous features of the present dispenser are disclosed in the dependent claims.

[0008] The main advantage of the present dispenser is that of combining the practicality of disposable dispensers with the irremovability of conventional wall dispensers.

[0009] A further advantage stems from the fact that it has a very simple structure which is therefore cheap to manufacture and reliable in operation.

[0010] Further advantages and characteristics of the device according to the present invention will be clear to those skilled in the art from the following detailed descrip-

tion of an embodiment thereof, with reference to the annexed drawings wherein:

Fig.1 is a perspective exploded front view showing the members which make up the dispenser;

Fig.2 is a view similar to the preceding one which shows the locking system between the cartridge and the wall support; and

Fig.3 is a perspective bottom front view showing the assembled dispenser and the unlocking tool.

[0011] With reference to Figs. 1 and 2 there is seen that the dispenser according to the present invention is made up of a wall support S in which there is introduced and locked a cartridge R, having a squeezeable structure, which can be removed only with the help of a suitable key K.

[0012] More specifically, support S includes a front seat U with a bottom opening F, as well as a rear extension J in which there are formed holes H for the wall mounting and vertical guides G engaging a semicircular cover C through corresponding columns M. This cover C is provided at its ends with internal horizontal wings D, and between its columns M there is provided a lock-tooth N suitable to engage a corresponding seat formed between guides G.

[0013] Cartridge R has a bottom portion V shaped and sized for introduction into seat U and a dispensing valve E also sized and positioned for introduction into the corresponding opening F. On the contrary, the top portion T is slightly larger to abut along the top edge of seat U, and in the central frontal area there is provided a comparatively more flexible area P which acts as pushbutton for dispensing the detergent in an amount proportional to the pressure exerted by the user.

[0014] The locking of cartridge R onto support S is achieved through projections formed on the back of cartridge R and suitable to be engaged by cover C. More specifically, a central tooth A is formed on the top portion of cartridge R and is engaged by the central portion of the arc of cover C, while a central horizontal ledge B formed on the bottom portion is engaged by wings D of cover C.

[0015] The simple operation of the present dispenser is readily understood from the description above: cartridge R is introduced into seat U, then cover C is lowered until tooth N snaps into engagement with the corresponding seat. To release the cartridge R to be replaced, key K is introduced from below into the bottom opening L of extension J, as shown in Fig.3, pushing upward until tooth N is disengaged so as to allow the lifting of cover C.

[0016] It is clear that the above-described and illustrated embodiment of the dispenser according to the invention is just an example susceptible of various modifications. In particular, the exact shape of seat U and of the corresponding cartridge R may be somewhat changed, same as the locking system for cartridge R and/or cover C, or the dispensing device that might replace valve E.

Claims

1. Liquid detergent dispenser including a cartridge (R) with squeezeable structure and dispensing device (E), a support (S) provided with holes (H) for wall mounting, a seat (U) suitable to receive said cartridge (R), and means for locking the cartridge (R) in said seat (U) which can be disengaged only through a specific tool, **characterized in that** the means for locking the cartridge (R) in the seat (U) consist of projections formed on the back of the cartridge (R) and a cover (C), said cover (C) engaging said projections and being slidable on the support (S) between a locking position given by a proper lock-tooth (N) and an open position which allows the removal of the cartridge (R). 5 10 15
2. Dispenser according to claim 1, **characterized in that** the projections comprise a central tooth (A) formed on the top portion of the cartridge (R) which is engaged by the central portion of the semicircularly shaped cover (C), and a central horizontal ledge (B) formed on the bottom portion of the cartridge (R) which is engaged by horizontal wings (D) internally arranged at the ends of the cover (C). 20 25
3. Dispenser according to claim 1 or 2, **characterized in that** the cover (C) is provided with columns (M) engaged in vertical guides (G) formed on a rear extension (J) of the seat (U) of the support (S), the lock-tooth (N) being formed between said columns (M) and its corresponding engagement seat being formed between said guides (G). 30
4. Dispenser according to claim 3, **characterized in that** the tool for disengaging the locking means consists of a key (K) which can be introduced from below in a bottom opening (L) of the extension (J) until it reaches and disengages the tooth (N). 35 40
5. Dispenser according to one or more of the preceding claims, **characterized in that** the cartridge (R) has a top portion (T) slightly larger than the bottom portion (V) which fits into the seat (U), so as to abut along the top edge of said seat (U). 45
6. Dispenser according to one or more of the preceding claims, **characterized in that** the cartridge (R) has a comparatively more flexible central frontal area (P) which acts as a pushbutton for dispensing the detergent in an amount proportional to the pressure exerted by the user. 50

Patentansprüche

1. Spender für flüssiges Reinigungsmittel, umfassend eine Kartusche (R) mit einem zusammendrückbaren

Aufbau und einer Spendeinrichtung (E), einen mit Löchern (H) zur Wandmontage versehenen Halter (S), einen Sitz (U), der zur Aufnahme der Kartusche (R) geeignet ist, und eine Einrichtung zum Verriegeln der Kartusche (R) in dem Sitz (U), die nur durch ein spezielles Werkzeug außer Eingriff gebracht werden kann, **dadurch gekennzeichnet, dass** die Einrichtung zum Verriegeln der Kartusche (R) in dem Sitz (U) aus Vorsprüngen besteht, die an der Rückseite der Kartusche (R) gebildet sind, und einer Abdeckung (C), wobei die Abdeckung (C) mit den Vorsprüngen in Eingriff kommt und an dem Halter (S) zwischen einer Verriegelungsposition, die durch einen geeigneten Verriegelungszahn (N) gegeben ist, und einer offenen Position, die das Entfernen der Kartusche (R) erlaubt, verschiebbar ist.

2. Spender nach Anspruch 1, **dadurch gekennzeichnet, dass** die Vorsprünge einen an dem oberen Abschnitt der Kartusche (R) gebildeten mittleren Zahn (A), mit dem der mittlere Abschnitt der halbkreisförmigen Abdeckung (C) in Eingriff kommt, und eine an dem unteren Abschnitt der Kartusche (R) gebildete mittlere horizontale Leiste (B) aufweisen, mit der horizontale Flügel (D) in Eingriff kommen, die im Inneren an den Enden der Abdeckung (C) angeordnet sind.
3. Spender nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** die Abdeckung (C) mit Säulen (M) versehen ist, die mit an einer rückwärtigen Erweiterung (J) des Sitzes (U) des Halters (S) gebildeten vertikalen Führungen (G) in Eingriff sind, wobei der Verriegelungszahn (N) zwischen den Säulen (M) gebildet ist und sein entsprechender Eingriffssitz zwischen den Führungen (G) gebildet ist.
4. Spender nach Anspruch 3, **dadurch gekennzeichnet, dass** das Werkzeug zum Öffnen der Verriegelungseinrichtung aus einem Schlüssel (K) besteht, der von unten in eine untere Öffnung (L) der Erweiterung (J) eingeführt werden kann, bis er den Zahn (N) erreicht und außer Eingriff bringt.
5. Spender nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** die Kartusche (R) einen oberen Abschnitt (T) hat, der geringfügig größer als der in den Sitz (U) passende untere Abschnitt (V) ist, so dass er entlang dem oberen Rand des Sitzes (U) anliegt.
6. Spender nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** die Kartusche (R) einen vergleichsweise flexibleren mittleren vorderen Bereich (P) hat, der als ein Druckknopf zum Spenden der Seife in einem zu dem von dem Benutzer ausgeübten Druck proportionalen Ausmaß wirkt.

Revendications

sateur.

1. Distributeur de détergent liquide comportant une cartouche (R) dotée d'une structure compressible et d'un dispositif de distribution (E), un support (S) 5
 pourvu de trous (H) pour être monté sur la paroi, un siège (U) capable de recevoir ladite cartouche (R) et des moyens destinés à bloquer la cartouche (R) dans ledit siège (U) qui ne peut être dégagé que par un outil spécifique, **caractérisé en ce que** les 10
 moyens destinés à bloquer la cartouche (R) dans le siège (U) sont constitués de protubérances formées sur l'arrière de la cartouche (R) et d'un couvercle (C), ledit couvercle (C) se mettant en prise avec les- 15
 dites protubérances et pouvant coulisser sur le support (S) entre une position de blocage donnée par une dent de blocage (N) appropriée et une position ouverte qui permet de retirer la cartouche (R).

2. Distributeur selon la revendication 1, **caractérisé en** 20
ce que les protubérances comprennent une dent centrale (A) formée sur la partie supérieure de la cartouche (R) qui est mise en prise par la partie centrale du couvercle (C) de forme semi-circulaire, et 25
 une traverse horizontale centrale (B) formée sur la partie inférieure de la cartouche (R) qui est mise en prise par des ailes horizontales (D) agencées de manière interne aux extrémités du couvercle (C).

3. Distributeur selon la revendication 1 ou 2, **caracté-** 30
risé en ce que le couvercle (C) est pourvu de colonnes (M) mises en prise dans des guides verticaux (G) formés sur une extension arrière (J) du siège (U) du support (S), la dent de blocage (N) étant formée entre lesdites colonnes (M) et son siège de mise en 35
 prise correspondant étant formé entre lesdits guides (G).

4. Distributeur selon la revendication 3, **caractérisé en** 40
ce que l'outil destiné à dégager les moyens de blocage est constitué d'une clé (K) qui peut être introduite du dessous dans une ouverture inférieure (L) de l'extension (J) jusqu'à ce qu'elle atteigne la dent (N) et la dégage. 45

5. Distributeur selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la cartouche (R) présente une partie supérieure (T) légèrement plus grande que la partie inférieure (V) qui s'ajuste à l'intérieur du siège (U), de manière à être 50
 en butée le long du bord supérieur dudit siège (U).

6. Distributeur selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la cartouche (R) présente une zone centrale comparative- 55
 ment plus flexible (P) qui agit comme un bouton-poussoir pour distribuer le détergent dans une quantité proportionnelle à la pression exercée par l'utili-

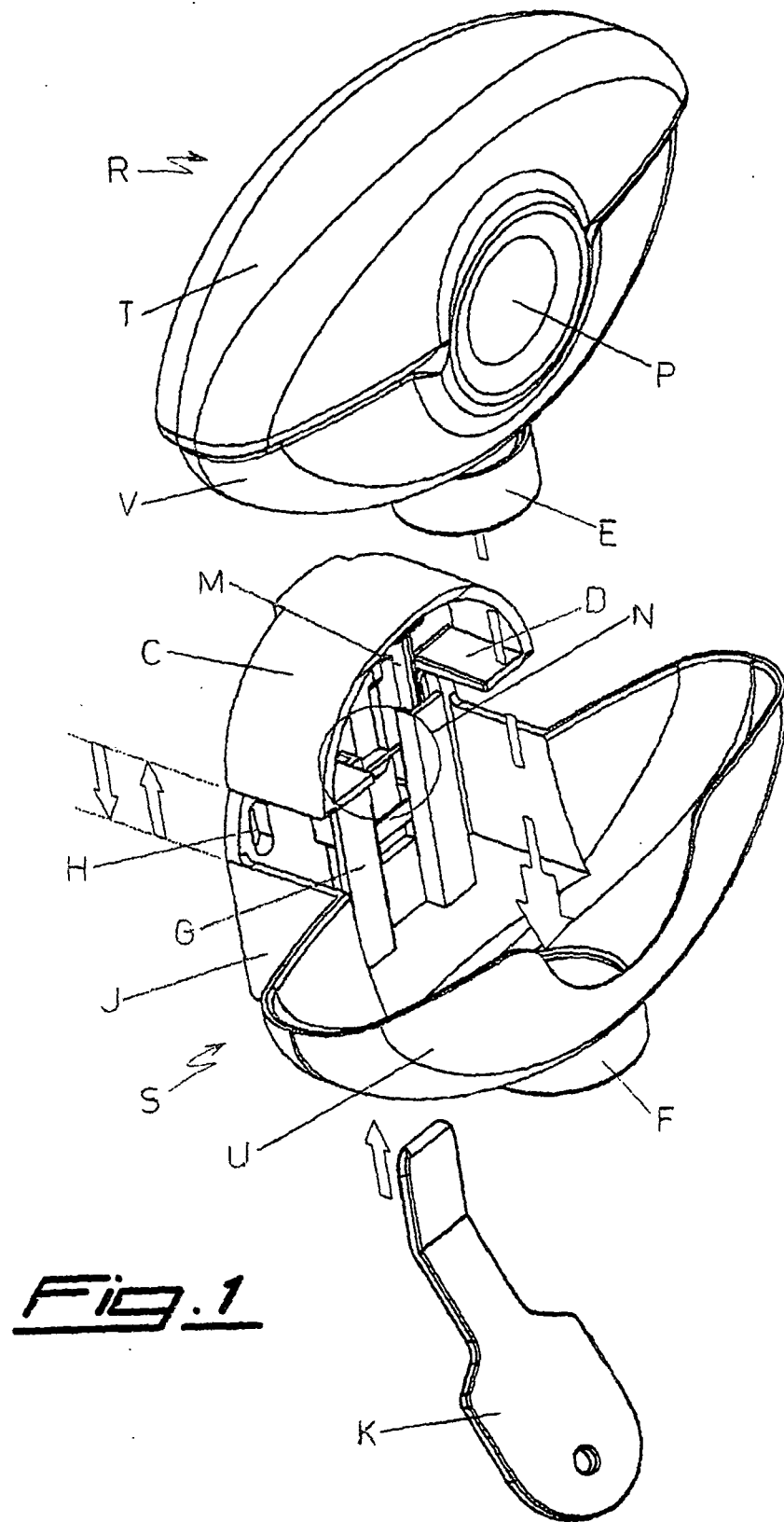
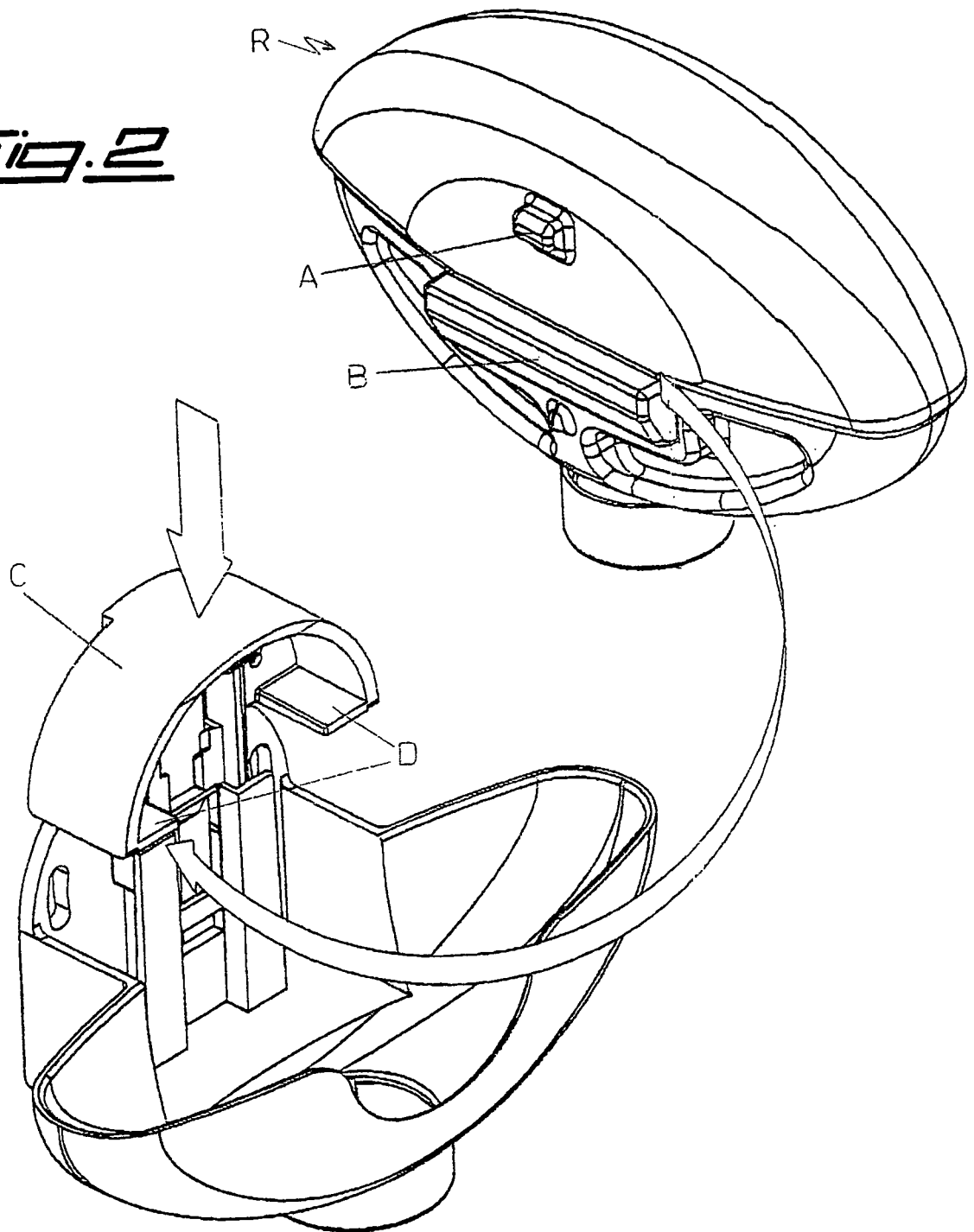
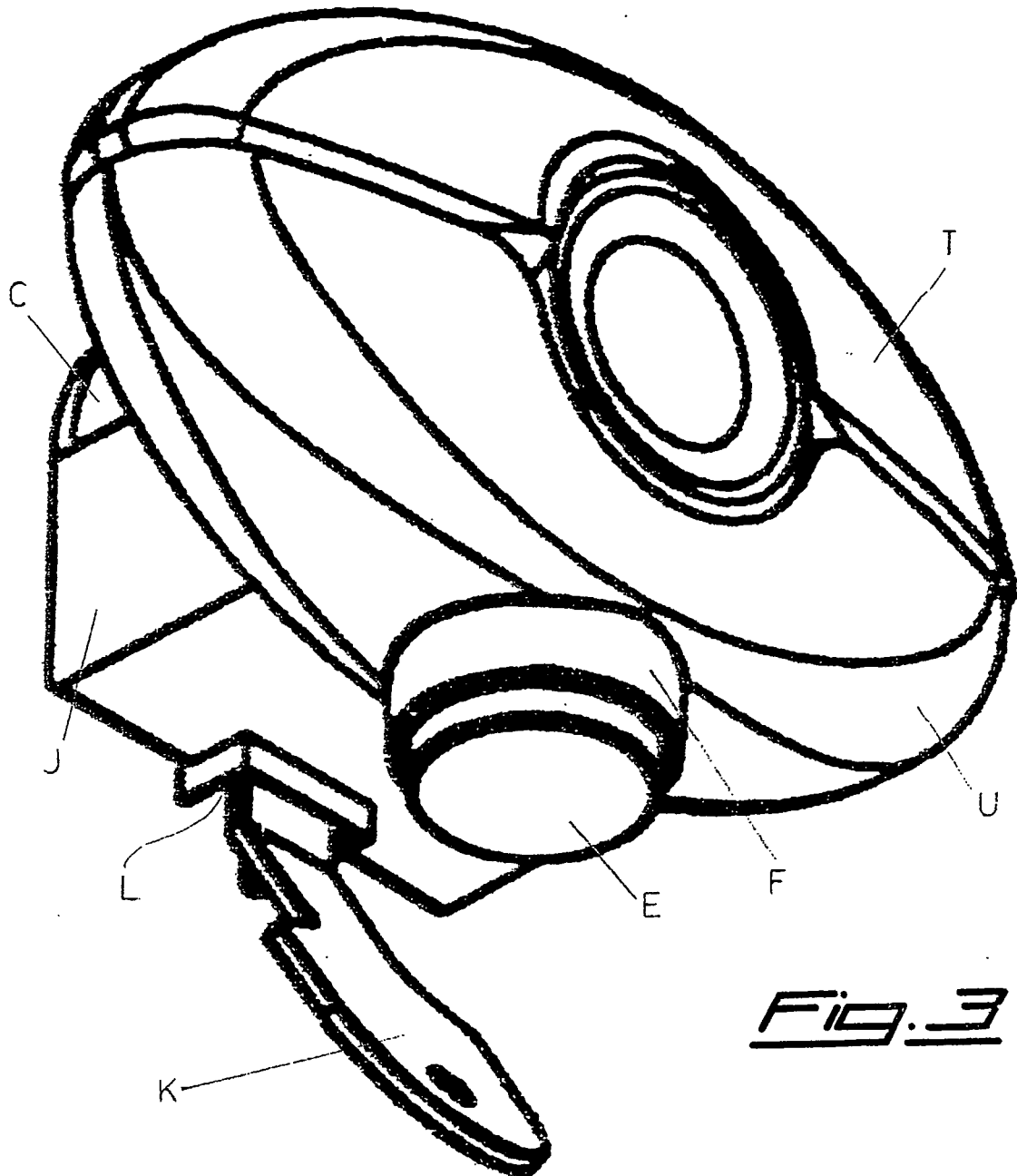


Fig. 2





REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- EP 0530789 A1 [0006]