Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

T 128

Case Number: T 47 / 83

DECISION

of the Technical Board of Appeal 3.2.1

of 1 February 1984

Appellant: Mepalservice B.V.
Kwinkweerd 1
NL - 7241 CW Lochem (NL)

Representative: Urbanus, Henricus Maria, Ir.
c/o Vereenigde Octrooibureaux
Nieuwe Parklaan 107
NL-2587 BP 's-Gravenhage

Decision under appeal: Decision of Examining Division 082 of the European Patent Office dated 21.10.82 refusing European patent application No 80 200 152.9 pursuant to Article 97(1) EPC

Composition of the Board:
Chairman: G. Andersson
Member: P. Ford
Member: K. Schügerl

Summary of Facts and Submissions

I. European patent application No. 80 200 152.9, filed on 21 February 1980 and published under publication No. 0 022 277 on 14 January 1981 was refused by a decision of Examining Division 082 dated 21 October 1982. That decision was based on two alternative versions of claim 1, on claims 2-6 dependent from claim 1, on an independent claim 7 and on claims 8-10, dependent from claim 7. The first alternative of claim 1 reads as follows:

In a canister having a cylindrical mouth, a closure comprising a substantially flat central panel flexibly connected at its outer radial edge to a relatively-rigid, conically-shaped intermediate ring panel, having a radial cross-section inclined upwardly and outwardly from said central panel, said ring panel being circumferentially attached to a radially expandable skirt, characterised in that said central panel (14), said intermediate ring panel (13) and said skirt (9) are parts of a bottom portion (7) of said closure (1), said closure further comprising a top portion (6) marginally bearing on said bottom portion (7) and provided with means (19,16) for axially displacing said central panel (14) of the bottom portion (7) with respect to said top portion (6) thereby to reduce the angle (α) of the upwardly inclined intermediate panel (13), increase the outer diameter of said skirt (9) and cause said skirt (9) to clamp against the inner surface (4) of said container mouth.

The second alternative of claim 1 reads:

In a canister having a cylindrical mouth and a bottom, a closure comprising:
- a bottom portion comprising a substantially flat central panel connected at its outer radial edge to a relatively-rigid, conically-shaped intermediate ring panel, having a radial cross-section inclined upwardly and outwardly from said central panel, said ring panel being circumferentially attached to a skirt and,
- a top portion provided with means for axially displacing said central panel on the bottom portion with respect to said top portion,
characterised in that said central panel (14) being flexibly at (15) connected to said intermediate ring panel (13) which in turn being at (11) flexibly connected to said skirt portion (9), said top portion (6) marginally bearing on said bottom portion (7), so that axial displacement of said central panel (14) to said top portion (6) effects reduction of the angle ( ) of the upwardly inclined intermediate panel (13) resulting in increase of the outer diameter of said skirt (9) and cause said skirt to clamp against the inner surface of the container mouth.

The independent claim 7 reads:

In combination, a canister and an appurtenant closure, said canister having a closed bottom, a cylindrical sidewall, and canister opening or mouth at the upper end thereof, the canister sidewall being provided adjacent to its upper end with a radially outwardly extending peripheral flange, and said canister closure being of two-piece construction, comprising a bottom portion and

a top portion, said bottom portion having a radially outwardly extending peripheral flange, a radially expendable peripheral skirt depending from said flange, and a transverse wall flexibly connected to said flange, said transverse wall comprising a substantially rigid, conically-shaped intermediate ring panel extending inwardly and downwardly inclined from said skirt, and a rigid, substantially flat, central panel hinged to said intermediate ring panel through local material reduction, an internally threaded tubular stub arranged on the upper side central panel, the top portion having a peripheral rim and a cover wall provided centrally on its bottom surface with an externally threaded tubular stub, the portions being arranged to allow the stub carried by the top portion to be screwed into the stub on the bottom portion with the peripheral rim of the top portion resting on the peripheral flange of the bottom portion, thereby to cause the central panel of the bottom portion to be pulled towards the top portion, thereby to decrease the slope of the intermediate panel from its initial angle to a smaller angle measured from the central panel and thereby to increase the outer diameter of the skirt of the bottom portion and, when placed in the canister opening or mouth, the closure is thereby clamped against the canister sidewall.

II. The reason given for the refusal was that the subject matter of both alternatives of claim 1 did not involve an inventive step having regard to DE-C-34 894 (citation 1) and US-A-3 244 308 (citation 2). Similarly, the subject matter of claim 7 was considered as obvious with reference to citation 1 and to DE-A-2 425 825 (citation 3).

III. The applicant lodged an appeal against this decision on 17 December 1982, received on 17 December 1982, with payment of the fee, and filed a statement setting out the grounds of appeal on 18 February 1983.

IV. The grounds for appeal were in essence that the devices disclosed in citation 1 and in citation 2 are based on two fundamentally different principles so that the two disclosures could not be readily combined. Thus, the claimed subject-matter could not be regarded as obvious.

V. In the course of the written procedure before the Board, DE-A-1 429 908 (citation 4) was introduced as further reference. Finally, the appellant submitted a new set of claims and a new description. The set of claims consists of an independent claim 1 and of claims 2 to 7 dependent from this claim 1.

Claim 1 reads as follows:

In a canister having a cylindrical sidewall with a bottom and terminating at the top in a wide opening, a closure comprising: a transverse wall having a substantially flat central panel hingedly connected at its radially outer edge to a relatively rigid frusto-conically shaped intermediate ring panel which is circumferentially flexibly attached to a radially expandable skirt, provided at its upper edge with a radially extending flange, and means for varying the level of said central panel relative to the level of said radially extending flange in order to vary the inclination of said frusto-conical intermediate ring panel and therewith the degree of expansion of said skirt characterised by: a top cover portion (6) marginally bearing on said radially extending flange (8), said top cover (6) being rotatable relatively to said transverse wall (12) which is a part of the bottom portion (7) of the canister closure (1) in a limited manner, said top cover (6) being connected to said means (16,19) to vary the level of said central panel so as to vary the inclination of said frusto-conical intermediate ring panel (13) between a position wherein said intermediate ring panel extends upwardly from said central panel enclosing an angle (α) with a horizontal plane through the flexible attachment (11) with said skirt (9) and a position wherein said angle α is reduced without however being reduced to zero.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 EPC and with Rule 64(a) EPC.
The Notice of Appeal does not contain a statement positively identifying the extent to which amendment or cancellation of the decision is requested. However, since the decision was that the application was refused in its entirety, it is clear that the applicant requests the cancellation of the decision in full. (cf. Decision T 07/81, EPO OJ 3/1983, 98).

The appeal can therefore be regarded as being also in accordance with Rule 64(b) EPC; it is therefore admissible.

2. The amended set of claims and the amended description do not contain subject matter which extends beyond the content of the application as filed (Article 123(2) EPC). The amendments aim at improving the delimitation of the

invention in the claims as against the state of the art, at completing the indication of the background art and at correcting some minor deficiencies in the description. They are therefore allowable.

3. The state of the art disclosed in citation 2 is correctly acknowledged in the pre-characterising portion of the present claim 1 (Rule 29(1)(a) EPC).

The closure system according to this citation can be regarded as a sort of a two-dimensional toggle lever system (of central symmetry), having two stable positions: the contracted position, in which no forces are transmitted from the skirt to the sidewall of the opening of the canister, and the expanded position, in which the skirt is urged against the side-walls. An external axial force is needed only for throwing the system from one position into the other. The radial clamping forces in the expanded position stem from the inner elastic forces, due to the bending of the two circular hinges. These inner forces tend to restore the original configuration (the retracted position) of the system against the constraint exerted by the sidewall.

4. In the closure according to the invention, as defined by claim 1, the clamping forces are applied to the skirt via an axial force, continually urging the central panel outwards. Both the expanded and the retracted position of the closure are lying on the same side of the dead-center position of the "toggle lever" system. The inner elastic forces due to the bending of the circular hinges are negligible. Indeed, the elasticity serves mainly to take up the deformations resulting from the displacement

of the central panel. In order to provide for a point of attack for the axial force to be applied to the central panel, a separate cover is arranged on the top.

5. The devices disclosed in citation 1 and citation 4 have a rigid bottom and a rigid top portion, to be pulled together in order to exert an axial compression force, circumferentially distributed, to an elastic ring (citation 1) or to an elastic hollow cylinder (citation 4). These elastic bodies convert the axial pressure into the desired radial clamping force.

6. It cannot be denied that the two last named devices and the invention have in common the principle of pulling together two parts in order to provide the clamping force. Nevertheless, the invention cannot be regarded as a combination of the teachings of citations 1 or 4 with the teachings of citation 2. The bottom portion according to citations 1 and 4 being rigid and moving as a whole, could be of any suitable shape and the incidental fact that the bottom according to citation 1 is somewhat similar to the configuration of the closure of citation 2 in its expanded position cannot be considered as a source of inspiration to an average skilled person to conceive the invention.

7. Indeed, the functions of the relevant parts are totally different. It is only after conceiving the idea of substituting the internal elastic forces in the circumferential hinges by the external axial force and, additionally, of substituting the principle of the two positions on both sides of the dead-center by arranging both positions on the same side of the dead-center, that the toggle lever action can be utilised to increase the

axial force at will and to exert a controlled clamping force irrespective of the tolerances of closure and canister. Such an increase of the applied external force is alien to the devices of citations 1 and 4.

8. Similarily, the skilled person, starting from citation 1, will not, even with the aid of citation 2, find the way to the invention. The fact that citation 2 discloses the use of plastics is irrelevant. To use plastic material instead of metal sheet and the like would still - within the framework of the disclosure of citation 1 - mean that the bottom is made to be rigid and movable as a whole. The only relevant fact to be gathered from citation 1 is the circular film hinge; to conceive the externally actuated "toggle lever" system of the invention - not described before - and to take advantage of the known circular hinges in this connection lies, as already mentioned, beyond the restricted capabilities to be attributed to the ordinary skilled person.

9. Citation 3 requires no special consideration, since the elastic deformation of the closure shown in this citation is incompletely controlled; no pointer to the invention can be derived from that document.

10. For the foregoing reasons, the subject matter of claim 1 is based on an inventive step (Article 56 EPC). Claim 1 and the depending sub-claims 2-7 are therefore allowable under the terms of Article 52 EPC.

ORDER

For these reasons,

it is decided that

1. The decision of the Examining Division 082 of the European Patent Office dated 21 October 1982 is set aside.

2. The case is remitted to the first instance with the order to grant a European patent on the basis of the following documents:

Description, pages 1-11, received on 28 June 1983,
Claims 1-7, received on 28 June 1983
Drawings as originally filed.