BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

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Bezeichnung der Erfindung: A closure for a container
Title of invention:
Titre de l'invention :

Klassifikation / Classification / Classement : B01L3/14 , B65D41/58 , A61J1/00

ENTSCHEIDUNG / DECISION
vom / of / du 18 July 1991

Anmelder / Applicant / Demandeur :
Patentinhaber / Proprietor of the patent / Titulaire du brevet : Walter Sarstedt Geräte und Verbrauchsmaterial für Medizin und Wissenschaft

Einsprechender / Opponent / Opposant : Becton, Dickinson and Company

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Article 56

Schlagwort / Keyword / Mot clé : "Inventive step - main and first to third auxiliary requests : no"

Leitsatz / Headnote / Sommaire

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File Number: T0293/90-342

D E C I S I O N

of the Technical Board of Appeal 342
of 18 July 1991

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Decision under appeal: Decision of the Opposition Division of the European Patent Office dated 26.01.90 revoking European patent No. 0102851 pursuant to Article 102(1) EPC

14.12.89 and sent on

Composition of the Board:

Chairman: TURRINI E
Members : HOFMANN W.W.G.
LEWENTON M V E

Summary of Facts and Submissions

I. European patent No. 0 102 851 was granted on the basis of European patent application No. 83 305 206.1.

II. The patent was revoked by a decision of the Opposition Division on opposition by the Respondent, on the ground that the subject-matter of Claim 1 according to the main request and according to the first auxiliary request lacked novelty, and the subject-matter of Claim 1 according to the second and third auxiliary requests did not involve an inventive step. In the opposition procedure the following documents were referred to:

(D1) EP-A-0 028 411,
(D2) US-A-4 308 347,
(D3) US-A-4 204 606,
(D4) "Medical Laboratory World" Vol. 5, No.7, July 1981, and
(D5) US-A-3 499 568.

III. The Appellant (Patentee) lodged an appeal against this decision.

IV. In a communication pursuant to Article 11(2) of the Rules of procedure of the Boards of Appeal, the Board referred to the further document

(D6) NL-A-7 312 588 (and an English translation thereof)

which had already been cited in the European Search Report.

V. Oral proceedings were held, at the end of which the Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of

1) Claims 1 to 3 of the main request,

2) Claims 1 to 3 of the first auxiliary request,
3) Claims 1 to 5 of the second auxiliary request,
4) Claims 1 to 5 of the third auxiliary request,

all handed over at the oral proceedings, and a description to be adapted.

The Respondent requested that the appeal be dismissed.

VI. 1) Claim 1 according to the main request reads as follows:

"A blood sampling container and removable closure arrangement said closure comprising a core section (10) constructed and arranged to be received at least partially within the container, and an annular outer section (12; 12'; 12'') disposed radially of the core section (10), the annular section being spaced from the core section over part of its length to provide an annular recess for receipt of the container neck (20), the portion of the core section (10) forming the inner wall of said annular recess having circumferential surfaces which are all substiantially cylindrical; the skirt (24, 24', 24'') being (lower portion of the section 12 forming a

- spaced from said container neck (20) over the full length of the skirt (24), or
- provided with irregularities (30, 31), said irregularities being discontiuous on a circumferential basis but located in the same circumferential plane, with said irregularities (30, 31) either being spaced from or contacting said container neck (20') or
- provided with an annular bead (30'') spaced from the container neck (50),

c h a r a c t e r i z e d in that
for providing a vacuum holding blood sampling container
on the one hand
said core section (10) consists of elastomeric
material, preferably of rubber or butyl rubber material
and on the other hand
said annular outer section (12; 12', 12'') consists of
substantially non-elastomeric material, e.g.
polyethylene, polypropylene or other similar material, *)

*) the external diameter of said core section (10) over at least the part thereof forming the inner wall of said annular recess is slightly greater than the internal diameter of the container neck (20; 20'; 50) into which it is to fit, such that location of said external diameter of said core section in said container neck causes compression of said core section in contact with said internal diameter of said container neck to form a plug seal; and

in that the container neck (20, 20', 50) is circular in section.

Claims 2 and 3 are dependent on Claim 1.

2) First auxiliary request: In addition to the text of Claim 1 according to the main request, Claim 1 according to the first auxiliary request contains the insertion

"the internal diameter of the annular section (12) being slightly less than the external diameter of the upper portion of the core section (10),",

which is inserted between "....e.g. polyethylene, polypropylene or other similar material," and "the external diameter of said core section (10) over at least part thereof....".

Claims 2 and 3 are dependent on Claim 1.

3) Second auxiliary request: This request comprises the three independent Claims 1, 2 and 3.
Claim 1 corresponds to Claim 1 according to the first auxiliary request, the insertion mentioned above being however additionally followed by

"the core and annular sections (10; 12, 12', 12'') being affixed to one another by location of a radial inwardly extending flange (18) on the annular section (12', 12'') in a circumferential groove (16) or recess in the core section (10),".

Claim 2 also corresponds to Claim 1 according to the first auxiliary request, the insertion mentioned above being however followed by

"the core and annular sections (10; 12, 12', 12'') being affixed to one another by friction augmented by complementary irregularities on the surfaces of the two sections,".

Claim 3 also corresponds to Claim 1 according to the first auxiliary request, the above-mentioned insertion being however left out and replaced by

"the core and annular section (10; 12, 12', 12'') being affixed to one another by adhesion, for example from applied adhesive material as from appropriate solvent effect on one or other section,".

Claims 4 and 5 are dependent on any one of Claims 1 to 3.

4) Third auxiliary request: Claims 1 to 5 correspond to Claims 1 to 5 according to the second auxiliary request; in

Claims 1 and 2, however, the above-mentioned insertion "the internal diameter ..... core section (10)," is left out.

VII. The arguments presented by the Appellant are in substance as follows:

D6 is the document closest to the present subject-matter. However, the closure described in this document is completely made of polyethylene which is a non-elastomeric material. A person skilled in the art had no reason to change the material of the core section to elastomeric material since in document D6 the closure is said to fit tight and to bring about a sealing connection, and the skilled person would rather expect difficulties if the core section - which has to sustain the annular outer section - were replaced by a softer material. Documents D1 and D5 could not suggest such a solution to the expert since the outer sections and the core sections described in these documents have a different construction: the cap has to press the flange of the core section against the neck of the container.
The feature of the claims according to the first and second auxiliary requests relating to the fact that the core section is compressed by the annular section, gives rise to the advantage that a hole having been pierced through the core section by an injection needle, closes more tightly in this case.

VIII. The Respondent's arguments may be summarised as follows:

Document D6 discloses a blood sampling container and removable closure arrangement which anticipates the basic construction of the subject-matter of the patent in suit and solves the problem of being economical to manufacture and providing protection against the aerosol effect.
A person skilled in the art would easily recognise that the polyethylene stopper used according to document D6 was not

suited for holding vacuum in the vessel for a longer time and that an elastomeric stopper (as e.g. mentioned in document D4) would be preferable. Document D1 provides the suggestion to form the closure of two different materials, one of them elastomeric and the other non-elastomeric.
Holding the core section in the annular section under compression (Claims according to the auxiliary requests) is self-evident for a person skilled in the art and does not produce an unexpected effect.

Reasons for the Decision

1. The appeal is admissible.

2. The Board has checked the features which, in order to form the present independent claims according to all requests, have been introduced into the original Claim 1, and has found that they are all disclosed in the description and claims as originally filed. Moreover, the scope of protection of Claim 1 as granted has not been extended. The Board is therefore satisfied that the amendments do not contravene Article 123(2) and (3) EPC.

3. Appellant's main request

3.1 Novelty

3.1.1 Document D6 (reference will always be made to the English translation) describes a blood sampling container and removable closure arrangement corresponding to the basic construction of the subject-matter of present Claim 1. In particular, the closure of this known arrangement has a core section (2A, 3) to be received at least partially within the container, and an annular outer section (4) disposed radially of the core section, the annular section being spaced from

the core section over part of its length to provide an annular recess for receipt of the container neck, the portion of the core section forming the inner wall of said recess being substantially cylindrical, and the lower portion of the annular section forming a skirt (see Figures 1 to 6).

4. (main request) Claim 1 mentions three alternatives concerning the shape of the skirt. Regarding these alternatives, the known closure has a skirt spaced from the container neck (page 3, lines 8, 9, 18 to 21), discontinuous irregularities located in a circumferential plane, contacting the container neck (page 5, lines 17, 18, 26 to 28), and an annular bead (page 6, lines 12 and 13).

The closure, and thus the annular section, can be made of polythene (= polyethylene; page 3, line 27 and page 5, line 1) which, as the Appellant has pointed out, is a non-elastomeric material. The Board agrees with this view although in document D6 the material is described as being elastic.

Although on page 5, lines 6 to 10, it is expressed that preference is given to zero clearance between the core section and the inner surface of the container, rather than to a radial compression of the core section, the practical impossibility of a real "zero clearance" and the "tight fit" which is to be achieved indicate the fact that at least a "slightly greater" external diameter of the core section as compared with the internal diameter of the container neck is chosen.

The container neck is circular in section (page 3, line 15).

Thus, the subject-matter of Claim 1 differs from the known arrangement only by the fact that the core section consists of elastomeric material.

3.1.2 Documents D2 and D4 describe blood sampling container and closure arrangements in which the closure consists of a non-elastomeric outer section and an elastomeric stopper

forming the core section. However, these known arrangements do not fulfil either one of the three alternative conditions of Claim 1 defining the shape of the skirt.

3.1.3 Documents D1 and D5 also describe a closure consisting of a non-elastomeric outer section and an elastomeric core section. According to these documents (in addition to differences in D5 regarding the shape of the skirt), the core section does not form a stopper which fits under compression in the neck of the container.

3.1.4 The closure described in document D3 is entirely made of elastomeric material, the core section as well as the outer section forming a seal with the neck of the container.

3.1.5 The subject-matter of Claim 1 is therefore novel in the sense of Article 54 EPC, which fact has not been contested by the Respondent.

3.2 Inventive step

3.2.1 As has been shown above (point 3.1.1), the whole basic construction of the container-closure arrangement according to Claim 1, except the elastomeric material of the core section, is known from document D6; and most of the problems underlying the patent as granted, i.e. protection against the aerosol effect, economical manufacture and simple design of the containers (cf. column 3, lines 28 to 35 of the patent specification), are already solved.
It is however also expressed in document D6 that for obtaining a sealing connection the moulding tolerances of closure and vessel are very narrow (page 5, lines 8 to 13). It will be immediately evident to a person skilled in the art that a non-elastomeric material such as polyethylene is not optimally suited for providing a tight plug seal, in particular not for holding a vacuum in the container as is

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often required (cf. column 1, lines 24 to 27 of the patent specification). Under these conditions, in the Board's view, a person skilled in the art will at once think of rubber as the typical and generally used material for tight seals, including vacuum seals, and in particular for stoppers (cf. also documents D4 and D2 which relate to rubber stoppers).

It was evidently sufficient to form the sealing part, i.e. the core section, of elastomeric material; and the hint that the closure could be combined of two different materials (the core section being chosen elastomeric for good sealing, and the cap being chosen non-elastomeric for better gripping properties), could be taken from any one of documents D1 and D5.

3.2.2 The Board does not share the Appellant's view that in the present case a person skilled in the art would have been kept from trying a combination of an elastomeric stopper and a non-elastomeric cap since it would have appeared to be difficult to hold a not otherwise fastened cap alone by fixing it on an elastomeric stopper. Apart from the fact that Claim 1 (main request) contains no indication of how this alleged difficulty is overcome in the present case, the Board does not consider it fundamentally more difficult to fasten a constructional part to an elastomeric part than to a part of some other material.

3.2.3 For these reasons, the subject-matter of Claim 1 according to the main request does not involve an inventive step in the sense of Article 56 EPC.

4. Appellant's first auxiliary request

4.1 Claim 1 according to this request contains the additional feature that the internal diameter of the annular section is slightly less than the external diameter of the upper portion

of the core section.
This feature implies that a connection is to be made between the core section and the outer section, as is the case with the closures according to documents D1 and D5. The fact that to this end some compression of the elastomeric material is used, cannot contribute anything to the inventive step of the subject-matter of Claim 1 since every person having practical experience knows that not only the tightness but also the friction and mechanical stability of a connection between an elastomeric stopper and a surrounding wall depends on some compression of the stopper in its seat.

4.2 The Appellant has put forward the argument that such a compression of the upper portion of the core section had the advantageous effect of making a hole caused by puncturing the core section with an injection needle close more tightly after the needle is withdrawn.
The Board is, however, not convinced by this argument. Whether the contribution of the upper portion of the core section to the tightness of the puncture can be anything else but negligible, depends on the specific construction of the core section. However, the details of the form of the stopper are not specified in Claim 1 and, judging from the drawing, the stopper is meant to be a solid cylindrical body in which the long lower portion compressed in the container neck would in any case seal the puncture better than the short upper portion could do.

4.3 Thus, the subject-matter of Claim 1 according to the first auxiliary request does not involve an inventive step either.

5. Second auxiliary request

5.1 This set of claims comprises three independent claims (Claims 1, 2 and 3) which further specify three alternative ways of affixing the core and annular sections to one another. Claims

1 and 2 add this further specification to Claim 1 of the first auxiliary request, Claim 3 adds it to Claim 1 of the main request.

5.2 Claim 1 relates to a radial inwardly extending flange on the annular section and a circumferential groove in the core section. This corresponds to the construction for fitting the "stopper disk 2" to the "cap 1" described in document D5 (cf. in particular Figures 3 to 5 and column 2, lines 44 to 46).

Irregularities for augmenting the friction as claimed in Claim 2 are mentioned in document D1 ("projections 7"; page 4, lines 13 to 16; page 5, lines 14 and 15; and Figures 3 and 4).

Affixing the core and annular section to one another by adhesion (Claim 3), corresponds to one of the most conventional methods of affixing parts to one another, i.e. using an adhesive.

None of these constructional details according to Claims 1, 2 and 3 achieves an effect going beyond what could be reasonably expected, and it is therefore considered obvious to use them in the present case.

5.3 Thus, the subject-matter of neither one of Claims 1, 2 and 3 according to the second auxiliary request involves an inventive step.

6. Third auxiliary request

6.1 The claims of the third auxiliary request differ from those of the second auxiliary request only insofar as in the independent Claims 1 and 2 the feature relating to the relative diameters of the annular section and the upper portion of the core section (i.e. the compression of the

upper portion of the core section) has been left out. Independent Claim 3 corresponds to that of the second auxiliary request.

Since the claims therefore do not contain any further features which could contribute anything to inventive step, the subject-matter of Claims 1, 2 and 3 according to the third auxiliary request does not involve an inventive step either.

7. The Board therefore comes to the conclusion that, pursuant to Article 52(1) EPC, neither one of the four requests of the Appellant can be allowed.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

P. Martorana E. Turrini