

Publication in the Official Journal ~~Yes~~ / No

File Number: T 517/90 - 3.2.4
Application No.: 84 300 748.5
Publication No.: 0 117 663
Title of invention: Foil container closing apparatus

Classification: B65B 7/28

D E C I S I O N
of 13 May 1992

Proprietor of the patent: Ekco N.V.

Opponent: 01) WARO-PAC Verpackungstechnik GmbH
02) ALCAN Deutschland GmbH

Headword:

EPC Articles 54, 56, 123(2)

Keyword: "Introduction into claim of a feature disclosed solely in the
drawings"
"Equivalents - matter of obviousness"
"Inventive step (yes)"

Headnote



Case Number : T 517/90 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 13 May 1992

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Decision under appeal : Interlocutory decision of the Opposition Division
of the European Patent Office dated 25 January
1990 and dispatched on 19 April 1990 concerning
maintenance of European patent No. 0 117 663 in
amended form.

Composition of the Board :

Chairman : C.A.J. Andries
Members : H.J. Seidenschwarz
W.M. Schar

Summary of Facts and Submissions

- I. European patent No. 0 117 663 concerning a "Foil container closing apparatus" and comprising two sets of claims for different Contracting States was granted on 9 September 1987 in response to European patent application No. 84 300 748.5 filed on 7 February 1984.

- II. Two oppositions were filed against the European patent requesting that it be revoked on grounds according to Article 100(a), (b) and (c) EPC.

The following documents were included in those referred to:

D1: DE-U-8 122 539 and
D3: US-A-2 826 026.

- III. By interlocutory decision at the conclusion of oral proceedings on 25 January 1990 the Opposition Division maintained the European patent in an amended form on the basis of a single set of claims for all Contracting States with Claim 1 filed with letter of 10 November 1988 and Claims 2 to 9 of the patent as granted for the Contracting States AT, BE, DE, FR and NL. The written statement of grounds for the decision was dispatched on 19 April 1990.

- IV. On 26 June 1990 the Appellant (Opponent 01) lodged an appeal against the decision, paying the appeal fee simultaneously. The Statement of Grounds was received on 27 August 1990 (facsimile, confirmed on 28 August 1990). The appeal was based on documents D1 and D3 intending to prove that the subject-matter of the European patent was not patentable within the terms of Articles 52 to 57 EPC.

V. Oral proceedings took place on 13 May 1992. Nobody was present on behalf of the Party to appeal proceedings as of right in accordance with Article 107 EPC (Opponent 02), who had been duly summoned pursuant to Rule 71(1) EPC. The oral proceedings therefore were continued without him (Rule 71(2) EPC).

- (i) The Respondent (Patentee) filed a new main request (Claims 1 to 9), three auxiliary requests (B, C, D) and a revised description of the patent (Columns 1 to 4).

Claim 1 of the main request reads as follows:

"A closure die assembly for securing a foil cover to a foil container and comprising a die frame (117) and a closure die (114 to 116, 163) movable axially thereof, the closure die comprising a support frame (114, 116, 163), a support plate (115) to hold a cover against a container, and closure means (111) slidable transversely of the support frame (114, 116, 163) to fold an edge flange of a cover under an edge flange of a container on relative axial movement between said closure die (114 to 116, 163) and said die frame (117), the support plate (115) being movable axially of the support frame (114, 116, 163) against a restoring bias (157), characterised thereby that said support plate (115) is normally in abutment with the support frame (114, 116, 163), said closure means (111) slide into said support frame (114, 116, 163) during relative axial movement between said closure die (114 to 116, 163) and said die frame (117), and said support plate (115) has an abutment (155) to engage the die frame (117) such that further relative axial movement

between said closure die and die frame moves said support frame (114, 116, 163) away from said support plate (115) to crimp a folded edge flange of the cover and container between said support plate (115) and closure means (111)."

- (ii) The parties agree that document D1 discloses the closest state of the art within the meaning of Rule 29(1)(a) EPC.
- (iii) The Appellant objects that the feature in Claim 1 which concerns the slidable closure means is not disclosed in the description of the application as filed and the patent as granted.

He also argues that the closure die assembly according to the patent in suit uses all the constructional elements of the prior art assembly as disclosed by document D1. The differences in the features between the prior art assembly and the subject-matter of Claim 1 - the closure means slide into the support frame during relative axial movement between the closure die and the die frame, and the support plate has an abutment to engage the die frame - are due to said movement which moves the support frame away from the support plate. This is, however, only a technically equivalent variant of the prior art assembly. The subject-matter of Claim 1 is therefore not novel.

He further argues that at least, the subject-matter of Claim 1 does not involve an inventive step, since it would be obvious to the person skilled in the art that the only possibility for avoiding any spillage on the support frame and abutments in the prior art assembly and for reducing its overall

size as well is to locate the support frame above the support plate so that the upward movement of the support frame always takes place above the support plate and, consequently, away from this support plate. The person skilled in the art would therefore receive an indication to locate the support frame above the support plate from document D3.

- (iv) The Respondent contests the arguments of the Appellant and is of the opinion that the subject-matter as now defined in Claim 1 is disclosed by the application as filed, is novel over the closure die assembly known from document D1, and also involves an inventive step, since neither document D1 nor document D3 taken individually, nor their combination, suggests to the person skilled in the art to design a closing mechanism for securing foil covers to foil containers according to Claim 1 which overcomes the disadvantages of the prior art assemblies mentioned in the description of the patent in suit.

VI. The Appellant requests that the decision under appeal be set aside and that the European patent No. 0 117 663 be revoked.

The Respondent requests that the appeal be dismissed and that the patent be maintained on the basis of the main request.

The Party as of right has not filed any request.

Reasons for the Decision

1. The appeal is admissible.
2. Amendments
 - 2.1 Claim 1 filed during the oral proceedings includes in addition to the features of Claim 1 (filed for all Contracting States) according to the interlocutory decision of the Opposition Division, the features that the closure means
 - (a) slide transversely of the support frame (pre-characterising portion), and
 - (b) slide inwardly into the support frame during relative axial movement between the closure die and the die frame (characterising portion).

These features are not cited expressis verbis in the application as filed and in the patent as granted.

The feature (a) is, however, part of the prior art assembly as described in the patent in suit (Figures 1 to 8) and as disclosed by document D1, which is regarded to be the closest prior art document and which forms the basis for the further development according to the patent in suit.

Furthermore, said feature (a) and the feature (b) as well are clearly shown in Figures 9 and 11 of the application as filed and the patent in suit as granted. According to the established jurisprudence of the Boards, there is no doubt that drawings are to be regarded as an integral part of a European patent application and may not be treated differently from either the claims or the description as regards allowability of amendments under Article 123(2)

EPC (cf. e.g. decision: "Wall element/VEREINIGTE METALLWERKE", T 169/83, OJ EPO, 1985, 193).

The inclusion of these features can therefore be allowed.

Since Claim 1 also contains all the features of both Claims 1 of the patent as granted and is further limited by at least the above-mentioned features (a) and (b), no objection arises under Article 123(3) EPC.

- 2.2 Claims 2 to 9 correspond to the Claims 2 to 5 and 7 to 10 of the application as filed and to the Claims 2 to 9 of the first set of claims and Claims 2 to 5 and 7 to 10 of the second set of claims of the patent as granted.

The description according to the interlocutory decision has been brought into conformity with Claim 1 filed during the oral proceedings.

Hence, also Claims 2 to 9 and the description do not contravene Article 123 EPC.

3. Closest prior art and novelty

- 3.1 The pre-characterising portion of Claim 1 of the patent in suit is derived from the closure die assembly disclosed in document D1, which was published before the priority date of the patent in suit (8 February 1983) and which discloses the same subject-matter as the document EP-A-0 071 130 cited in the description of the patent as granted as a prior art document under Article 54(3) and (4) EPC.

The closure die assembly according to document D1 is the closest to the subject-matter of Claim 1 among the multiple closing mechanisms for closing foil containers

disclosed by the documents cited in the proceedings before the European Patent Office. As all the features of Claim 1 which, in combination, are part of the closure die assembly made available to the public by the aforesaid document D1 are mentioned in the pre-characterising portion of the claim, this claim satisfies Rule 29(1)(a) EPC.

Specifically, document D1 discloses that

- only when the closure means (5) are moved under the flanges of the cover and the container (cf. page 8, line 16 to page 9, line 4; Figures 1 to 4) the support plate (1,6) abuts with its upper surface the die frame such that further relative axial movement between the closure means (5) and die frame (2) moves the support frame (3,21) towards the support plate (1,6) to crimp a folded edge flange of the cover and container between the support plate (1,6) and closure means (5),
- the closure means (5) slide inwardly, but out of the support frame (3,21) during said relative axial movement, and
- abutments which control the crimping operation by engaging the support frame are provided outside of the multi-part die frame assembly.

3.2 Therefore, the subject-matter of Claim 1 of the patent in suit differs from the closest prior art assembly by the features as specified in the characterising portion of Claim 1.

The Board does not agree with the Appellant's opinion that the subject-matter of Claim 1 is not novel since said subject-matter is a technically equivalent variant of the

closure die assembly according to document D1. According to the "Guidelines for Examination in the European Patent Office" (Part C, Chapter IV, No. 7.2), equivalents are not a matter of novelty but of obviousness. This approach has been consistently followed in the practice of the European Patent Office (cf. decision: "Fuel injector valve/NISSAN", T 167/84, OJ EPO, 1987, 369, section 6).

- 3.3 The description (column 2, lines 20 to 31) and the Figures 1 to 8 of the patent in suit concern a prior art closing mechanism as disclosed by the document EP-A-0 091 813 which is a prior art document under Article 54(3) and (4) EPC. This closing mechanism includes a separate crimping frame.
- 3.4 None of all the other documents cited in the proceedings before the European Patent Office discloses a closure die assembly according to Claim 1 of the patent in suit. To give reasons in detail is unnecessary since novelty with respect to this state of the art was not disputed.
- 3.5 Hence, the subject-matter of Claim 1 of the patent in suit is novel within the meaning of Article 54 EPC.

4. Technical problem to be solved

The closure die assembly according to document D1 has a number of disadvantages. One of these is that the abutments which control the crimping operation are disposed not only outside the multi-part die frame, but also below the container to be closed. The mechanism is therefore not only bulky but it may also be contaminated by food which is spilled or slopped from the container during the closing operation. Furthermore, due to its more bulky size, the prior art assembly is neither adaptable to automatic operation in which a knife is used

to cut a cover sheet having the appropriate size for the containers to be closed nor interchangeable with an assembly suitable for different size containers. Another disadvantage is that during the folding stage the closure means slide out of the support frame so that the bearing surface of the closure means in the support frame, for transmitting the crimping force during the crimping stage, as well as the rigidity of the support frame is reduced.

It follows from the description of the patent in suit (cf. column 3, lines 5 to 8) and from the submissions of the Respondent during the oral proceedings that the technical problem to be solved by the invention is to provide a closure die assembly which is more compact and robust than the prior art assembly and in which the likelihood of food fouling the mechanism is reduced.

5. Solution

According to the teaching of Claim 1 the above-mentioned problem is solved by disposing the different parts of the closure die (support frame, support plate and closure means) in such a specific relation to each other that the support frame can be moved from its normal position (abutment) adjacent to the support plate to a position away from the support plate as a result of the engagement of an abutment of the support plate with the die frame during the further relative axial movement between the closure die and the die frame in the crimping stage, whereas simultaneously the closure means slide into the support frame for transmitting the crimping force.

Since all major working components of the closure die assembly - the means for bending the cover edge flange vertically downward and for folding said flange inward under the container edge flange and the means for crimping

the folded edge of cover and the edge flange of the container - are disposed substantially above the container to be closed, the overall size of the whole closure die assembly is more compact. Due to this compact construction the whole closure die assembly can easily be removed from a container closing machine for cleaning and adjustment and can be substituted by an alternative assembly suitable for different size containers. A further advantage of the compact closure die assembly disposed above the containers is the reduction of likelihood of food fouling the mechanism because the area below the containers is clear of the working components and thus spillages and slops may easily be dealt with. Furthermore, the movement of the closure means into the support frame during the folding and crimping stages increases the torsional stiffness of the support frame during the crimping stage.

6. Inventive step

6.1 Document D1:

There is no hint in document D1 of reversing the relative movement of the support frame and the support plate or to a pure kinematic inversion of the relevant parts which could lead to the claimed invention. On the contrary, document D1 clearly teaches to dispose the support plate between the die frame and the support frame at a distance from both of them, which permits the operation of the closure die assembly without a separate crimping frame (cf. document D1: Claim 1 and description: page 3, lines 3 to 12).

Furthermore, since the die frame and the upper plate disclosed by document D1 move downwardly toward the support frame during the closing stage, the abutments (18) which control the crimping operation must be disposed

outside and below the perimeter of the container. Otherwise they would collide with the support of the container or the container itself (cf. document D1: description, page 8, line 16 to page 9, line 13; Figures 1 to 4). In document D1 there is however no hint to eliminate these abutments.

6.2 Document D3 discloses a closure die assembly for securing a cover (9) to a container (4) and comprising a die frame (34) and a closure die (38, 41) movable axially thereof. The closure die has a support frame (38), a support plate (41) normally in abutment therewith, to hold a cover against a container, and pivoting closure means (37). The die frame is provided with abutments (56) which engage the support plate such that relative axial movement between the closure die and die frame moves the support plate axially of the support frame against a restoring bias (55).

Apart from the fact that a completely different activation system of the closure means (pivotable instead of slidable transversely of the support frame) is disclosed in document D3, and that the die frame is provided with an abutment (instead of the support plate), the closure die assembly according to document D3 also differs functionally (cf. column 3, line 50 to column 4, line 9) from the subject-matter of Claim 1 of the patent in suit in that

- during a first downward movement of the die frame the closure means are moved under the flange of the cover and the outturned rim of the container, but they do not fold the flange under said rim during this "first stage movement" (Figure 4; column 4, lines 2 to 5: operative relation), and

- during a further downward movement ("second stage movement") of the die frame the support plate is moved away from the support frame, so that the flange of the cover is curled or folded around the outturned rim of the container (Figure 5; column 3, lines 54 and 55; column 4, lines 6 to 9 and 65 to 67), and is not crimped together with said rim.

The curling or folding stage or second stage of the closing operation performed by the assembly according to document D3, which is to be considered as the only flange deforming stage, is equivalent to the first or folding stage of the closing operation of the assembly as disclosed by document D1 or as defined by the disputed patent since no crimping force is applied to the flanges of the cover and container during the folding stage.

From the above it is clear that the closure die assembly known from document D3 is not provided with the means which cause the folded edge flange of the cover to be crimped between the support plate and the closure means during a separate crimping stage following the folding stage.

Due to the fact that the embodiment according to document D3 discloses a completely different closure means activation system - in its construction (tiltable) as well as in its function (only one flange deforming stage) - the teaching of this document cannot support the Appellant's submission that document D3 suggests to the person skilled in the art to dispose the support frame above the support plate in a closure die assembly according to document D1 if he wants to avoid the disadvantages inherent in said last-mentioned assembly. Indeed, in the disclosure of document D3 there is no hint of a general construction of a closure die without the tiltable closure means, let

alone of the specific construction of the closure die according to Claim 1 of the patent in suit.

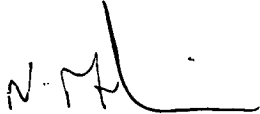
- 6.3 Therefore, this submission has to be regarded as an ex post facto analysis. According to the jurisprudence of the Board of Appeal, the question for deciding whether an inventive step is present in the subject-matter of Claim 1 over the state of the art is not whether the person skilled in the art could have applied the constructional conception known from document D3 but whether he would have done so in the expectation of an improvement or advantage (cf. decision: "Simethicone Tablet/RIDER, T 2/83, OJ EPO 1984, 265, section 7). Having regard to what was stated in sections 6.1 and 6.2 above, the Board does not consider that the person skilled in the art would have made the combination in the particular way needed to arrive at the presently claimed subject-matter.
- 6.4 The Board has also considered the further available documents published before the priority date of the patent and has found them non-prejudicial to the subject-matter of Claim 1, either alone or in combination with the documents D1 and D3.
7. For the reasons given above, the subject-matter of Claim 1 involves an inventive step (Article 56 EPC). Claims 2 to 9 are dependent upon Claim 1 and are therefore also patentable. The patent can thus be maintained with these claims according to the main request.
8. Under these circumstances, there is no need to consider the auxiliary requests.
9. At the end of the oral proceedings, the Appellant had an opportunity to comment on the amendments submitted by the Respondent. Therefore it is unnecessary to issue a communication pursuant to Rule 58(4) EPC.

Order

For these reasons, it is decided that:

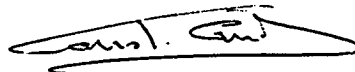
1. The contested decision is set aside.
2. The case is remitted to the first instance with the order to maintain the patent with the following documents:
 - Claims 1 to 9 and description, columns 1 to 4 as filed during the oral proceedings;
 - description, columns 5 to 9, and drawings of the patent as granted.

The Registrar:

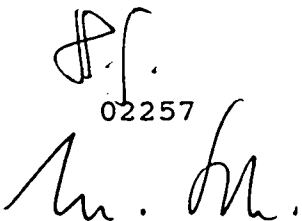


N. Maslin

The Chairman:



C. Andries



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