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**D E C I S I O N**  
of 5 November 1998

**Case Number:** T 0589/95 - 3.3.3  
**Application Number:** 89111391.2  
**Publication Number:** 0403678  
**IPC:** B32B 27/08

**Language of the proceedings:** EN

**Title of invention:**  
Shrinking protective wrapping or film

**Applicant:**  
Oy W. Rosenlew Ab

**Opponent:**  
-

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 56, 83  
EPC R. 27(1)(e)

**Keyword:**  
"Inventive step (no) - features not contributing to solution of problem set out in description"

**Decisions cited:**  
T 0037/82

**Headnote:**  
It cannot involve an inventive step to provide, in a known use, an unusual variant of one integer of a combination otherwise known for that use, for the sole purpose of avoiding a particular disadvantage (here, sticking) under circumstances which extend such use to a discrete area in which the disadvantage was already known not to arise.



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Boards of Appeal

Chambres de recours

Case Number: T 0589/95 - 3.3.3

DECISION  
of the Technical Board of Appeal 3.3.3  
of 5 November 1998

**Appellant:** Oy W. Rosenlew Ab  
Ulasoori  
28100 Pori 10 (FN)

**Representative:** Bühling, Gerhard, Dipl.-Chem.  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office dated 5 February 1995 and  
issued in writing on 21 February 1995 refusing  
European patent application No. 89 111 391.2  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** C. Gérardin  
**Members:** R. Young  
J. A. Stephens-Ofner

## Summary of Facts and Submissions

I. European patent application No. 89 111 391.2, relating to "Shrinking protective wrapping or film", which was filed on 22 June 1989 and published under No. 0 403 678, was refused by a decision of the Examining Division dated 8 February 1995 and issued in writing on 21 February 1995. The decision was based on two sets of claims, forming a main and an auxiliary request, respectively. The main request consisted of a set of Claims 1 to 10, Claims 1, 6 and 7 of were filed on 7 June 1994, and Claims 2 to 5 and 8 to 10 on 26 November 1993. The auxiliary request consisted of a set of Claims 1 to 9 filed at oral proceedings held before the Examining Division on 8 February 1995.

Claim 1 of the main request read as follows:

"A protective wrapping (10, 10', 100) for protecting products (13, 113) comprising at least a layer (11, 11a, 11', 112, 112') made of an amorphous plastic material or mixture of amorphous plastic material and polyolefine; said layer (11, 11a, 11', 112, 112') being capable of not sticking to the products (13, 113) being protected or to the conventional protective wrapping (114) surrounding the bundled package on shrinkage."

Claims 2 to 10 were dependent claims, directed to elaborations of the protective wrapping according to Claim 1.

Claim 1 of the auxiliary request read as follows.

"A protective wrapping (10, 10', 100) for protecting products (13, 113) comprising at least a layer (11, 11a, 11', 112, 112') made of an amorphous plastic material or mixture of amorphous plastic material and

polyolefine; said amorphous plastic material being selected from the following group: polymethyl methacrylate, polystyrene, polyvinyl chloride, polyisobutene, polyurethane, acrylic nitrile butadiene styrene, acrylic nitrile styrene acrylate, polyether imide, polysulphone, and polyacrylate; said layer (11, 11a, 11', 112, 112') being capable of not sticking to the products (13, 113) being protected or to the conventional protective wrapping (114) surrounding the bundled package on shrinkage."

Claims 2 to 9 were directed to elaborations of the protective wrapping according to Claim 1.

II. According to the decision, heat shrinkable film for protective purposes in packaging applications was well-known in the art, for instance from:

D1: GB-A-915 779; and

D2: GB-A-1 244 657.

In particular, D1 related to amorphous linear copolyesters used as heat shrinkable wrap for meat, poultry and skin-tight packages. Furthermore, D2 described unoriented, amorphous (and therefore transparent) polyamide films useful for the production of vacuum-formed articles such as food containers and blister packs. Whilst neither of these documents indicated explicitly whether the films, when shrunk on to a substrate to be protected, stuck to the packaged goods, nevertheless this feature could be regarded as distinguishing only if it were demonstrated that they actually stuck to the same substrate to which the films according to the application in suit did not stick. Since this had not been shown, the feature of "not sticking to the products being protected" did not establish a distinction over D1 and D2, and consequently, Claim 1 of main request lacked novelty.

As regards the auxiliary request, the substitution of the amorphous copolyester in D1 or the amorphous copolyamide in D2 by specific other polymers of essentially amorphous nature listed was a matter of routine experiments for the skilled person which, in the absence of some unexpected effect, did not involve an inventive step.

III. On 30 March 1995, a Notice of Appeal against the above decision was filed, together with payment of the prescribed fee.

The Statement of Grounds of Appeal, which was filed on 21 June 1995, was accompanied by two amended sets of claims forming a main and auxiliary request, to which certain objections were raised under Articles 123(2), 83 and 84 and Rule 27(1)(e) EPC in a communication of the Board issued on 19 August 1998 accompanying a summons to oral proceedings. A further objection was raised under Article 56 EPC having regard to two further documents cited in the European search report:

D3: World Patents Index, accession no. 68-16211Q, week 00, Derwent Publications Ltd., GB; & JP-B-43 026 109; and

D4: US-A-4 254 869,

which were introduced into the proceedings by the Board.

IV. In a further submission, filed on 1 October 1998, the Appellant filed two further sets of amended claims, namely a set of Claims 1 to 6 forming a main request, and a set of Claims 1 to 5 forming an auxiliary request, both directed to the use of a protective wrapping for protecting bundled products or packages.

The submission was also accompanied by a Company brochure of the Appellant "R-NOSTIPAC shrink-film is 100% non-sticking", and a copy of US-A-5 051 284, corresponding to the application in suit.

V. The arguments of the Appellant in the Statement of Grounds of Appeal and in the further submission of 1 October 1998 may be summarised as follows:

- (a) The non-sticking characteristic, which formed an integral part of the claimed subject-matter, was not suggested in either D1 or D2.
- (b) Furthermore, the functional feature of non-sticking was directly and positively verifiable by tests involving nothing more than trial and error, and was therefore allowable in the claim, following the relevant case law.
- (c) A patent with less restrictive claims had been granted on the same subject-matter both in the US and in Finland.

VI. Oral proceedings were held before the Board on 5 November 1998. Following certain objections, raised by the Board against these claims under Article 84 EPC, the Appellant abandoned both sets of claims filed on 1 October 1998 and submitted, instead, a single set of two claims forming a sole request. Claim 1 of this request reads as follows:

"Use of a protective wrapping (10) for protecting bundled products or packages (13), the protective wrapping consisting of:

an inner layer (11) made of amorphous polystyrene or a mixture of amorphous polystyrene and polyolefine at a percentage of at least 50% amorphous polystyrene, and

.../...

an outer layer (12) applied on one of the surfaces of said inner layer (11) and being made of a shrinking plastics material, wherein said inner layer (11) does not stick to the bundled products (13) being protected on shrinkage."

Claim 2 is directed to a use according to claim 1, characterized in that the percentage of amorphous polystyrene is at least 70%."

VII. The Appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the sole request filed during oral proceedings.

### Reasons for the Decision

1. The appeal is admissible.
2. *Amendments*

Claim 1 is based on a combination of claims 1, 2, 4 and 7 of the application as originally filed, read in the light of Figure 2 of the drawings, which shows a wrapping material formed of two layers. Furthermore, the change of category from a "product" claim ("A protective wrapping...") to a "use" claim ("Use of a protective wrapping...") is supported by the wording of the original Claim 1, which defines the non-sticking function of the wrapping on shrinkage, i.e. in use.

Claim 2 is supported by the last two paragraphs on page 2 of the description as originally filed (printed specification, column 2, lines 16 to 28).

Thus the claims of the sole request meet the requirements of Article 123(2) EPC.

3. *The application in suit; the state of the art*

3.1 The application in suit relates to a protective wrapping for protecting bundled products or packages, the protective wrapping consisting of an inner layer and an outer layer applied on one of the surfaces of the outer layer and being made of a shrinking plastics material, wherein the inner layer does not stick to the bundled products being protected on shrinkage (Claim 1).

3.2 The nature of the products to be protected is not specified, beyond the statement, in connection with the embodiment according to Figures 1 and 2, that they may be "bags or sacks" which "constitute a bundled package" (description as originally filed, sentence bridging pages 3 and 4; printed specification, column 3, lines 8 to 13), and, in connection with the embodiment according to Figures 4 and 5, that they are "bottles 113 used in the pharmaceutical industry" (description as originally filed, page 4, lines 19 to 22; printed specification, column 3, lines 34 to 38). In particular, there is no example of any product to be protected in which the material of which it is made or in which it is conventionally packaged prior to applying the two-layer shrink wrapping is specified.

3.3 A two-layer wrapping of the type referred to is, however, known from D4, cited by the Board in the communication issued on 19 August 1998 which is considered to form the closest state of the art.

3.4 According to D4, a method of making a double-wrapped pack comprises the steps of: shrink-wrapping a plurality of similarly-shaped articles in a first heat-shrinkable ethylene polymer film to form a first package, assembling a plurality of such packages to



form an aligned group, and shrink-wrapping the aligned group within a second heat-shrinkable ethylene polymer film to form a second package, the contacting interface of one of the films being coated with a thin, substantially continuous release coating of solvent-based polyamide to facilitate ready separation of the films upon opening of the second package (Claim 1). The preferred solvent-based polyamide is a polyamide-polyethylene wax containing material (column 3, lines 21, 22).

3.4.1 According to the introduction of D4, such a package technique using shrinkable polyethylene film had been used in cases in which it was conventional practice in the past to use corrugated (i.e. cardboard) cartons. When the packages themselves were wrapped in polyethylene film, however, the shrinking heat applied caused the outer polyethylene sheet to fuse to the individual packages, thus making it difficult if not impossible to remove the individual packages intact when they reached their destination (column 1, lines 15 to 17 and 29 to 38).

3.4.2 Thus, the method of D4 addresses a problem of sticking which arises when a polyethylene wrapped package is shrink wrapped in a further polyethylene shrink wrapping. This problem is solved, according to the teaching of D4, by the use of the specified release layer.

3.5 Compared with this state of the art, and in accordance with the approach adopted in the application in suit (application as originally filed, page 2, lines 7 to 13; printed specification, column 1, line 48 to column 2, line 1), the technical problem is to be seen in the use of a further such shrinking protective wrapping or film, in which the sticking of the protective wrapping or film to the products being

protected or to the conventional protective wrapping surrounding a bundled package is reliably prevented, the products or packages being of unspecified material (section 3.2, above).

3.6 The solution proposed according to Claim 1 of the application in suit is to replace the release coating of solvent-based polyamide by an inner layer made of amorphous polystyrene or a mixture of amorphous polystyrene and polyolefine at a percentage of at least 50% amorphous polystyrene.

3.7 Whilst there is no experimental evidence in the application in suit itself as to the effectiveness of the claimed wrapping material in avoiding sticking to any specific surface material of the products being wrapped, there being no specific example showing concrete results (section 3.2, last sentence, above), it is nevertheless evident, from the prospectus of the Applicant company, filed on 1 October 1998, that, at least in the case of a **polyethylene** clad product or package, the tendency of a **polyethylene** shrink overwrap material to stick to the product or package is eliminated. In this particular case, therefore, it is credible to the Board that the measures claimed provide an effective solution of the stated problem.

3.8 It must, however, be borne in mind, that the terms of Claim 1 and therefore of the technical problem are such as to leave unspecified the nature of the package being wrapped. In other words, the "use" claimed applies not only to polyethylene wrapped products, but also extends to every other kind of package.

3.8.1 In the latter connection, it is evident, from the acknowledgement of prior art in the application in suit, that earlier efforts to eliminate the aforementioned problems involved, for instance, putting

a sheet of paper between the package and the protective wrapping (description as originally filed, page 1, lines 17 to 20; printed specification, column 1, lines 15 to 19). This is reflected by the reference, in the opening paragraph of D4, to the conventional practice in the past of using corrugated cartons (section 3.4.1, above). Consequently, it was known that, at least when the packages being shrink wrapped present a surface of paper or cardboard, as opposed to a polyethylene surface, there is no tendency of the shrink wrapping material to stick to the products being protected. This was not contested by the Appellant at the oral proceedings.

3.8.2 It follows from this, that in such a case, the stated problem is "solved" only in the sense that it does not arise at all.

3.9 In summary, and in view of the above, whilst it is credible to the Board that the claimed measures provide an effective solution of the technical problem in the particular case that a relevant problem arises, the solution extends to a discrete area of use in which such a problem was already known not to arise.

#### 4. *Novelty*

4.1 The preferred polyamide-polyethylene wax containing material is the only release layer material disclosed in the closest state of the art document D4 (section 3.4, above). Consequently, D4 does not disclose the solution of the relevant technical problem.

4.2 This solution is also not to be found in the disclosures of either D1 or D2, since the former relates to copolyesters and the latter to copolyamides, as correctly stated in the decision under appeal (section II., above), and neither discloses the required amorphous polystyrene species.

4.3 According to D3, which was considered in the form of its English language abstract, shrink packaging polypropylene film is produced by melt extruding a mixture of isotactic polypropylene and 3 to 20 % w/w of total resin of amorphous polymer having a viscosity of 1 000 to 25 000 poises at 25°C, which is first stretched longitudinally and then transversely to 3 to 8, preferably 4 to 6 times its original size. The amorphous polymer consists essentially of styrene and is polystyrene alone or polyolefin of 5 to 8 carbon atoms with a major amount of styrene alone or a normally liquid copolymer of styrene and such an olefin copolymer.

Whilst D3 discloses a blend of polystyrene and a polyolefin for shrink packaging purposes, the maximum proportion of polystyrene referred to, at 20 %w/w, is less than the 50% required by the solution of the relevant technical problem. Hence, this solution is not to be found in D3.

4.4 In summary, the solution proposed according to Claim 1 of the application in suit is not disclosed in any of the cited documents. A definitive finding on the issue of novelty is not, however, necessary, in view of the result of the Board's deliberations on inventive step (section 5., etc. below).

5. *Inventive step*

- 5.1 It is axiomatic for the recognition of an inventive step in the subject-matter of a claim, that there is no embodiment falling within the scope of the claim that is obvious. Put in terms of the problem and solution approach as applied by the Boards of Appeal of the EPO, the solution of the technical problem set out in the relevant claim must involve an inventive step over the whole defined area of its performance.
- 5.2 Furthermore, according to the established case law of the Boards of Appeal, features which do not contribute to the solution of the problem set out in the description are not to be considered in assessing the inventive step of a combination of features (T 0037/82, OJ EPO 1984, 71).
- 5.3 In this connection, it must be recalled that it has already been found that the terms of the solution of the technical problem extend into an area of use where it had been admitted that the relevant problem was known not to arise in practice (section 3.8.2, 3.9, above). It follows from this, that for such an area, the features of the solution do not contribute to the solution of the technical problem.
- 5.4 This leads to the conclusion that the features of the solution cannot be taken into account in the assessment of inventive step.

5.5 The latter situation has been recognised in the decision under appeal in relation to the claims then on file and the documents then cited, which refused the effect of "non-sticking" as a distinction from the disclosures of D1 and D2, to the extent that it had not been demonstrated that the products being protected actually stuck to the shrink wrapping films disclosed therein (section II., above).

The decision under appeal then went on to draw the following conclusion: "Thus, substitution of the amorphous copolyester in D1 or the amorphous copolyamide in D2 by other polymers of essentially amorphous nature, such as those described in original Claim 5 of the application, is a matter of routine experiments for the skilled person. Such a selection of another amorphous polymer film cannot be regarded as involving an inventive step unless the applicant is in a position to show some unexpected effect coupled with the specific amorphous plastic materials listed in Claim 1 of the subsidiary request. As the applicant failed to provide such an unexpected effect which originates in the distinguishing feature over D1 (or D2), no inventive step can be acknowledged."

5.5.1 Originally filed Claim 5, in this connection, referred to a mixture of polystyrene and butadiene. This corresponds closely to the feature by which present Claim 1 is distinguished from D4 (section 5.4, above). Consequently, the conclusion arrived at by the decision under appeal is also relevant to present Claim 1.

5.5.2 In referring to "other polymers of an amorphous nature", the decision under appeal was not, however, relying on a particular prior art disclosure, but rather on the concept that, where no effect was to be achieved, all polymers known to be capable of forming a film would be equally suitable.

- 5.5.3 In the present case, polystyrene is generally well-known as a film forming polymer, as is corroborated by its disclosure in amorphous form for use in packaging in D3. Whilst D3 does not disclose a proportion of amorphous polystyrene above 20 wt% (section 4.3, above), this is irrelevant to the considerations involved here, since there is no reason for supposing that the film forming capability would be lost simply by increasing the proportion of amorphous polystyrene to 50% or above.
- 5.5.4 Consequently, the choice of the specific amorphous polystyrene layer, now the subject-matter of Claim 1 of the application in suit, was correctly regarded as non-inventive.
- 5.6 The Appellant was not able, at the oral proceedings, to show the Board why this finding should be regarded as incorrect. On the contrary, the conclusion reached in the decision under appeal amounts to the same thing as stating that the choice of the feature could not be taken into consideration in the assessment of inventive step (section 5.4, above).
- 5.7 The argument that the "non-sticking" characteristic was not suggested in D1 or D2 (section V.(a), above) is not convincing, since there is no evidence that sticking is a problem with the substrates disclosed in these documents (section II., above). Even if this were not so, the argument does not apply to D4, which is the closest state of the art.
- 5.8 The argument that the functional feature of non-sticking was directly and positively verifiable by tests (section V.(b), above), whilst it may have relevance for the sufficiency of the description of the application in suit (which was an issue raised pursuant to Article 83 EPC in the communication issued on

19 August 1998, but not pursued to a final determination), has no significance for the scope of the claims, which cover packages of all materials (section 3.8, above).

5.8.1 In this connection, the Board does not see any reason for taking an extraordinary view of the way in which the present wording of Claim 1 should be interpreted.

5.8.2 On the contrary, the absence of any reference, even in the description, which could be regarded as constituting a limitation to polyethylene, means that the scope of the claim must be construed broadly.

5.8.3 Consequently, the claims must be construed as covering at least the use of the wrapping material in relation to a paper or cardboard surfaced product to be protected.

5.9 The argument that a patent was granted in other countries (section V.(c), above) is irrelevant to the issues arising under the EPC.

5.10 In summary, the Board regards it as an inevitable consequence of the case law referred to above, that it cannot involve an inventive step to provide, in a known use, an unusual variant of one integer of a combination otherwise known for that use, for the sole purpose of avoiding a particular disadvantage (here, sticking), under circumstances which extend such use to a discrete area in which the disadvantage was already known not to arise.

5.11 The Board is aware that the situation is unusual to the extent that the deficiency resides in the area of the definition of the technical problem arising, rather than of its solution; and that an Applicant in such



circumstances would not normally be reluctant to restrict his claim to those areas of use which corresponded to an effective contribution, by the features claimed, to the solution of the relevant problem.

The absence of any specific example in the description (section 3.2, above) is, however, a major deficiency which led the Board to raise objections under Article 83 and Rule 27(1)(e) EPC to the Appellant, in the communication issued on 19 August 1998 and during oral proceedings. One of the consequences is that there is no basis in the disclosure as originally filed for a relevant limitation of Claim 1 to a more specifically defined material of the products to be protected.

5.12 Hence, the subject-matter of Claim 1 does not involve an inventive step within the meaning of Article 56 EPC.

### Order

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

E. Görgmaier

The Chairman:

C. Gérardin

