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D E C I S I O N
of 13 November 2001

Case Number: T 0023/00 - 3.2.1

Application Number: 91906332.1

Publication Number: 0588789

IPC: B65D 5/54

Language of the proceedings: EN

Title of invention:
Carton for granular materials

Patentee:
The Procter & Gamble Company

Opponent:
Henkel KGaA Patente (TTP)

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0023/00 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 13 November 2001

Appellant: (Opponent)
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Respondent: (Proprietor of the patent)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 22 November 1999 rejecting the opposition filed against European patent No. 0 588 789 pursuant to Article 102(2) EPC.**

Composition of the Board:

Chairman: F. Gumbel
Members: S. Crane
G. Weiss

Summary of Facts and Submissions

I. European patent No. 588 789 was granted on 8 May 1996 on the basis of European application No. 91 906 332.1.

Claims 1 and 9 of the granted patent read as follows:

"1.A side fill container (20) for housing granular materials, the container has an enclosure including a top wall (26) and a bottom wall (30) opposing each other, a front wall (68) and a back wall (28) opposing each other, and two end walls (70) opposing each other, whereby:

(a) each of the end walls (70) comprises two main layers (50, 54; 51, 55) associated with said back (28) and front (68) walls attached to each other in face to face relation and having a top edge (66), a third layer (52, 53) associated with said bottom wail (30) attached in face to face relation to the main layers, and a fourth layer (46 47) having a horizontal tear strip (56) therein, the fourth layer is attached to the main layers below the tear strip;

(b) the front wall (68) comprises an inner layer (32) having a top edge and an outer layer (24), the outer layer having a horizontal tear strip (56) therein which connects with the tear strips of the end walls (70) forming one continuous tear strip, the inner and outer layers being attached to each other below the tear strip;

(c) an ear (48, 49) is attached to each of the end walls (70) above the tear strip (56) and to

the top wall (26), the ear holding the top wall against the top edge (66) of the main layers (50, 54; 51, 55), a glue flap (58) is attached to the top edge of the inner layer (32) of the front wall (68),

characterized in that the fourth layer (46, 47) is attached to the main layers (50, 54; 51, 55) below the tear strip (56), the glue flap (58) is attached to the top edge of the inner layer (32) of the front wall (68) via a perforated score line (60), the glue flap also being attached to the top wall (26), and said two main layers (50, 54; 51 55) have substantially the same transverse dimension as the axial dimension of said top wall.

"9.A blank for forming aside fill container (20) according to claim 1, said blank comprising top (26), bottom (30), front (32) and back (28) wall panels, and a tear strip panel (24), whereby:

(a) the tear strip panel (24) has an extension panel (46, 47) attached along axial score lines (42, 44) to each axial edge of the tear strip panel, the tear strip panel and extension having a transverse tear strip (56)therein;

(b) the top panel (26) is attached along its upper transverse edge (34) to the lower transverse edge (34) of the tear strip panel (24);

(c) the back panel (28) is attached along its upper transverse edge (36) to the lower transverse edge (36) of the top panel (26), the back panel having a major flap (50, 51) having a transverse

dimension substantially equivalent to the axial dimension of the top panel attached along axial score lines (42, 44) to the each axial edge the back panel;

(d) the bottom panel (30) is attached along upper transverse edge (38) to the lower transverse edge (38) of the back panel (28), the bottom panel having a minor flap (52, 53) attached along axial score lines (42, 44) to each axial edge Of the bottom panel;

(e) the front panel (32) being attached along its upper transverse edge (40) to the lower transverse edge (40) Of the bottom panel (30), the front panel having a major flap (54,55) having a transverse dimension substantially equivalent to the axial dimension of the top panel (26) attached along axial score lines (42,44) to each axial edge of the front panel;

(f) an ear (48, 49, 148, 149) being attached along a score lines (42, 44) to either each axial edge of the top panel (26) or each lower transverse edge (134) of the tear strip extension panels (146, 147), a glue flap (58) is attached along its upper transverse edge to the lower transverse edge of the front panel (32) via a transverse perforated cut line (60);

characterized in that the back panel (28) has a major flap (50, 51) having a transverse dimension substantially equivalent to the axial dimension of the top panel (26) attached along axial score lines (42,44)to each axial edge of the back panel, and

a glue flap (58) which is attached along its upper transverse edge to the lower transverse edge of the front panel (32) via a transverse perforated cut line (60).

Dependent claims 2 to 8 relate to preferred embodiments of the container according to claim 1 and dependent claim 10 to a preferred embodiment of the blank according to claim 9.

II. The present appellants filed an opposition against the granted patent and requested its revocation in the entirety on the ground that its subject-matter lacked inventive step (Articles 100(a) and 56 EPC).

Of the state of the art relied upon in the opposition proceedings only the following pre-published documents have played any significant role on appeal:

(D1): US-A-3 131 852

(D2): DE-C-3 602 974

(D3): US-A-4 289 240

(D4): GB-A-1 248 131

(D7): EP-A-0 160 736

(D8): US-A-3 239 129

III. With its decision posted on 22 November 1999 the Opposition Division rejected the opposition.

A notice of appeal against this decision was filed on

18 December 1999 and the fee for appeal paid at the same time.

The statement of grounds of appeal was filed on 22 march 2000. In this statement the appellants referred to a further prior art document, viz. (D9) US-A-3 434 849.

IV. In a communication pursuant to Article 11(2) RPBA posted 14 February 2001 the Board indicated its provisional opinion that document D8 represented the most appropriate starting point for the evaluation of inventive step. It also indicated that it intended to disregard the belatedly submitted document D9 pursuant to Article 114(2), since it was no more relevant than the state of art already on file.

V. Oral proceedings before the Board were held on 13 November 2001.

The appellants requested that the decision under appeal be set aside and the patent revoked.

The main request of the respondents (proprietors of the patent) was that the appeal be dismissed and the patent maintained as granted. In the alternative they requested maintenance of the patent in amended form on the basis of the claims according to the first to fourth auxiliary requests submitted in the course of the written proceedings or claims 1 to 8 of the granted patent.

VI. In support of their request the appellants put forward in essence the following arguments:

The requirement in feature (a) of claim 1 that the main layers were "attached" to each other did not necessarily mean that there was a physical connection between them, such as by glueing, but would also be met if means, for example other parts of the container, were provided for holding them in mutual engagement. The same applied to the further requirement in feature (a) that the third layer be attached to the main layers and the requirement in the characterising clause of the claim that the glue flap be attached to the top wall.

Bearing this in mind, the subject-matter of claim 1 was distinguished from the container disclosed in document D8 solely in that the main layers had the same transverse dimension as the axial dimension of the top wall and by the provision of a flap attached to the top edge of the inner layer of the front wall via a perforated score line, the flap also lying against the inside of the top wall.

Both of these features allegedly improved the sift-proofing of the container against the migration of particles of a granular product, but in fact, taking proper account of the technical considerations involved, neither of them could do so. Indeed, they would be more likely to be detrimental to sift-proofing rather than improving it. Be that as it may , there was certainly no combinatorial effect of the two features and given that both of them were known individually in the relevant art - "full width" end flaps from document D7 and front wall top edge flaps from documents D2, D3 and D4 - there was nothing inventive in incorporating there features into the container of document D8 to achieve equivalent effects there to those obtained in

the relevant prior art.

The design of a suitable blank for forming a container of a required form was a routine matter for the person skilled in the art and there was nothing of any independent inventive significance in the subject-matter of claim 9. It must also be borne in mind when evaluating the inventive step of the blank of claim 9 that several of the features relied upon by the respondents as distinguishing the container of claim 1 from the prior art were not capable of definition in a claim directed to the blank.

VII. The arguments of the respondents in reply can be summarized as follows:

In each of the instances that the term "attached" was used in claim 1 it had its normal meaning of requiring a physical connection of some description between the elements referred to. With regard to the specific points raised by the appellants in this respect it was thus clear that feature (a) of the claim required the main layers of the respective end wall to be physically connected to each other and to the third layer associated with the bottom wall, and that the characterising clause of the claim required the glue flap to be physically connected to the top wall, ie by glueing.

It was thus apparent that the container of claim 1 differed from that of document D8 not only by virtue of the two features identified by the appellants but also with respect to the structure of its end walls. Furthermore, as disclosed in that document the end walls would in no way be suitable for retaining a

granular product, so that it was in any case questionable whether this prior art was a suitable staring point for evaluating inventive step. The arguments of the appellants that the structure of container claimed would be no better with regard to sift-proofing than that of document D8, or indeed inferior, did not stand up to closer analysis and were based on the assumption that the person skilled in the art would construct the container without reference to his common general knowledge and in a way essentially designed to defeat its intended purpose.

The appellants had attempted to demonstrate that the person skilled in the art would have been led in an obvious manner to combine features from several disparate container types to arrive at the claimed subject-matter, but their arguments were typical of an unallowable ex-post-facto analysis.

Similar considerations applied **mutatis mutandis** to the blank defined in claim 9.

Reasons for the Decision

1. The appeal complies with the formal requirements of Articles 106 to 108 and Rules 1(1) and 64 EPC. It is therefore admissible.

2. The present patent relates in general to a box-shaped container made up from a blank of a suitable material, typically cartonboard. More particularly, the container comprises a top wall in the form of a lid which can be opened after removal of a tear strip, the lid hinging about its line of connection to the back wall. The blank for forming the container comprises a series of

interconnected main panels defining respectively in essence the top, back, bottom and front walls of the container. Connected to the sides of various ones of these panels are flaps which serve to form the end walls of the container when the blank is erected. The references in present claim 1 to the "transverse dimension" of the main layers of the end walls and the "axial dimension" of the top wall are to be understood in the context of the axial and transverse directions of the blank.

Conventionally the blank is delivered to the packager in the form of a flattened sleeve with the tear strip, which is connected via a score line to the top edge of the top panel, glued to the front panel. At the packaging plant the blank is squared up and the flaps at one side closed to form one end wall. The product is then filled into the container at the other side and the flaps here then closed to form the second end wall (hence the generally used term "side fill container"). Finally, the transverse extensions of the tear strip are attached to the end walls and ears attached via respective score lines to either the tear strip extensions or the top wall are attached to the respective other ones of these elements to hold the top wall against the end walls.

3. The patent is concerned with the development of such a side fill, tear strip, top opening container which would be suitable for use with granular materials. In particular, the structure of the container should be such as effectively to prevent during transportation the sifting of granular particles into spaces between layers of the container walls which are separated from each other when the container is opened, these

particles then falling messily onto the surface where the container is used. As explained in more detail below the Board is satisfied that the measures adopted in the claimed solution to this technical problem will indeed contribute to this end.

4. Each of the documents D1 and D8, both of which are referred to in the introductory description of the patent specification, relate to the type of container outlined in point 2 above. In the passage referring to document D1 this is stated to disclose a container according to the preamble of claim 1. On detailed inspection this is however not wholly correct, the difference lying in the nature of the tear strip found in the prior art document. There the tear strip comprises the bottom region, set off by a perforated score line, of the panel which is folded to form the fourth layer of the respective end walls. This tear strip is attached to the equivalent bottom region of a reverse folded glue flap attached via a score line to the upper edges of the panel forming the front wall and the end flaps extending from this panel. The upper region of this glue flap is glued to the front wall and the end walls of the container and is joined to its bottom region via a perforated score line. To open the container the mutually attached bottom regions of the panel and reverse folded glue flap are torn off and since their upper regions are not attached to each other, the top wall of the container is freed to hinge open about its line of attachment to the back wall.

Thus in contradiction to what is said in features (a) and (b) of claim 1 the respective fourth layer of the end walls is not attached to the main layers below the tear strip and the inner and outer layers of the front

wall are not attached to each other below the tear strip.

With respect to the above the Board also notes that the draftsman of the claim was evidently in some confusion concerning the true disclosure of document D1, since the feature of the fourth layer of the end wall being attached to the main layers below the tear strip is also included in the characterising clause of the claim. It is however a well recognised principle that for evaluation of inventive step it is of no significance how the features of the claim are divided between its preamble and characterising clause, so this inconsistency gave no cause for amendment of the claim along the lines proposed by the first auxiliary request of the respondents.

In any case, as already indicated in its communication, the Board is of the opinion that the container of Document D8, rather than that of document D1, is to be preferred as the starting point for investigating inventive step. The reason for this is that the glue flap on the top edge of the front wall of the container of document D1 is specifically intended to be reverse folded onto the outside of the front wall so as to provide a clean edge, whereas according to granted claim 1 the glue flap is attached to the top wall, which would be incompatible with the clear teachings of document D1. Thus any approach to inventive step which posed the question whether it was obvious to use the glue flap present in the container of document D1 in the manner proposed by the invention would essentially be doomed to failure.

With the container of document D8, on the other hand,

its basic configuration corresponds in general terms to that of the claimed container. The Board cannot accept the argument of the respondents that document D8 does not represent a suitable starting point since it does not disclose the suitability of the container for use with granular materials, since it is the development of the container in this direction which constitutes the underlying technical problem to be solved. If the only appropriate starting point were to be a document specifically concerned with sift-proofing then only document D7 would come into consideration, but the container disclosed there is of such a fundamentally different construction that any investigation of inventive step taking this as the point of departure would be wholly artificial.

When the container of the document D8 is erected the end walls are formed by folding in respective flaps associated with the bottom, back and front walls (in that order). These flaps correspond respectively to the third layer and the two main layers defined in feature (a) of claim 1. The flaps associated with the back and front walls have a combined length substantially equal to the width of the end wall, so that their free vertical edges end up in substantial abutment. The respective sideways extensions of the tear strip panel (corresponding to the fourth layer of feature (a) of claim 1) are pre-glued to the respective flap associated with the front wall and are provided with respective area of glue for attachment to the flap associated with the back wall. Each end wall is completed by an ear attached to the top wall which is folded down and glued.

The appellants have argued that in the construction of

the end wall described above the two main layers are "attached" to each other and the third layer is attached to the main layers, within the meaning of claim 1, by virtue of being held in place by other parts of the container. The Board can not agree. Within the context of the claim, as interpreted in the light of the description, there is no justification for departing from the normal meaning of "attached", ie that requiring some form of physical connection between the elements involved. Furthermore, even if a the limit the two main layers could be considered as being attached to each other via the tear strip panel which is glued to both, these two layers are certainly not in face to face relationship.

Thus the container of claim 1 is distinguished from that disclosed in document D8 by the following technical features:

(i) the main layer of each of the end walls have substantially the same "transverse dimension" as the "axial dimension" of the top wall (see point 2 above) and are attached to each other in face to face relation, with the third layer of the end wall attached in face to face relation to the main layers;

(ii) a glue flap is attached to the top edge of the inner layer of the front wall via a perforated score line, the glue flap also being attached to the top wall (ie by glueing, since no other sensible interpretation of the term "glue flap" is possible).

The appellants argue that these two groups of features will not in fact improve the sift-proofing of the container known from document D8, but have provided no

concrete evidence to back up this contention. In the opinion of the Board the formation of a top edge of the end wall having double thickness across its whole width, against which the top wall is held by the ears (cf. feature (c) of claim 1), is indeed likely to lead to a more effective barrier to particle migration than the single thickness top edge of the end wall disclosed in document D8, ie the top edge of the flap associated with the bottom wall. In the circumstances the benefit of any doubt here has to be given to the respondents, since it is up to the appellants to provide adequate proof for their allegations. As for the glue flap it seems self-evident that this will help to prevent migration of particles into the space between the inner and outer layers of the front wall. The argument of the appellants in this respect that the perforations in the score line joining the glue flap to the inner layer must, in order to allow proper separation of the glue flap when the container is opened, inevitably be of such a size as to allow particles to pass through them is not convincing since the length and width of the perforations can be readily tailored to avoid any such effect.

The only prior art relied upon with respect to the first group of distinguishing features identified above is document D7. This discloses an sift proof top closure structure for a folded paperboard container, the structure comprising two opposed major flaps and two opposed minor flaps, each of which is divided into first and second minor parts. Each of the major flaps has an area substantially co-extensive with the end opening of the container. The folding sequence is first opposed first minor parts, then the first major flap followed by the opposed second minor parts and finally

the second major flap. One or more flaps may be embossed for better contact and glue is applied in various areas to seal the structure. Document D7 is however not concerned with a container of the basic side fill, tear strip, top opening configuration to which the claimed invention is directed. The Board can therefore see no reason why the person skilled in the art, without the benefit of hindsight, would have extracted one of the features of the top closure structure of document D7, ie the full width major flaps, and incorporated them into the end wall structure of document D8.

With regard to the provision of a glue flap at the top edge of the inner layer of the front wall the appellants have relied on the documents D2, D3 and D4. Document D2 relates to a side fill container for ice cream or the like which has an arrangement of tear strips allowing the container to be completely flattened out to provide access to the block of ice cream. In the embodiment of Figure 2 the top edge of the inner layer of the front wall is provided with an additional flap which on erection of the container lies against the inside of the top wall and acts as an additional seal. Document D3 is concerned with a side fill container having a reclosable hinged lid freed for opening by breaking away its front edge panel from the front wall of the container along a line of weakness. In order to reduce bowing out of the front wall and thus to allow ready reclosing of the lid, the top edge of the front wall is provided with an reinforcing additional flap which is folded inwardly and rests against the top wall of the lid. Thus it can be seen that of these two documents only in document D2 is there provided an additional flap having a function

approximating to that of the glue flap of claimed container. The additional flap is not however attached to the top wall of the container and is permanently attached to the front wall of the container via a normal fold line rather than detachably joined thereto via a perforated score line as claimed. The appellants argue here that the teachings of document D4 could encourage the person skilled in the art to modify the form of the additional flap of document D2 in the above sense. However, although document D4 does indeed show a container with a hinged lid and a flap attached via a perforated score line to its front wall and glued to the inside of the top wall, the function of this glue flap is in no way comparable to that of the additional flap of document D2 or the glue flap of the claimed invention. In the relatively simple container of document D4, suitable for chocolates or the likes, it is the glue flap itself which provides the main means for holding the lid in its closed position. The purpose of arranging the perforated score line within the confines of the lid is essentially aesthetic, it serving to conceal the broken edge when the lid is opened. There is therefore nothing which would have encouraged the person skilled in the art firstly to combine the teachings of documents D2 and D4 to arrive at a glue flap equivalent to that claimed and secondly to incorporate this notional glue flap into the container disclosed in document D8.

As a consequence of the above the Board has reached the conclusion that the subject-matter of claim 1 cannot be derived in an obvious manner from the state of the art and accordingly involves an inventive step (Article 56 EPC).

5. The Board can agree with the appellants in general terms that the patentability of the blank defined un claim 9 does not follow automatically from the patentability of the container defined in claim 1. However the contention of the appellants in this respect that the form of the blank is in no way predicated upon the form of the container goes too far. Since the blank is stated to be "for forming" a container according to claim 1 then it follows that the shape and the form of the various panels etc of the blank referred to in claim 9 must be such as to allow the formation from it of a container according to claim 1. This being said it is on the other hand apparent that with respect to the blank disclosed in document D8 it is not a distinguishing feature of the blank of claim 9 *per se* that the two major flaps and the minor flap of the end walls are attached to each other. Nor can the use of the term "glue flap" in claim 9, in relation to the blank itself, be taken as meaning any more than that a flap is provided suitable for being glued in the assembled container. These differences do not however have any fundamental impact on the analysis of inventive step made above with respect to the container. Applying the relevant considerations **mutatis mutandis** to the blank of claim 9, the Board is of the opinion that the skilled person would not have been led by the cited prior art documents to modify the blank of document D8 in the manner required to arrive at the claimed subject-matter.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

S. Fabiani F. Gumbel