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**Datasheet for the decision  
of 15 February 2019**

**Case Number:** T 0904/15 - 3.2.04

**Application Number:** 08166099.5

**Publication Number:** 2050347

**IPC:** A24C5/32, A24C5/35

**Language of the proceedings:** EN

**Title of invention:**

A transfer device in manufacturing systems for tobacco products

**Patent Proprietor:**

G.D S.p.A.

**Opponent:**

Hauni Maschinenbau GmbH

**Headword:**

**Relevant legal provisions:**

EPC Art. 56

RPBA Art. 13(1), 13(3)

**Keyword:**

Inventive step - obvious combination of known features  
Late-filed auxiliary requests - admitted (no)

**Decisions cited:**

T 0176/84, T 0195/84

**Catchword:**



**Beschwerdekammern**  
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Case Number: T 0904/15 - 3.2.04

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.04**  
**of 15 February 2019**

**Appellant:**  
(Patent Proprietor)

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**Decision under appeal:**

**Decision of the Opposition Division of the  
European Patent Office posted on 17 March 2015  
revoking European patent No. 2050347 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman** A. de Vries  
**Members:** S. Oechsner de Coninck  
C. Heath

## Summary of Facts and Submissions

- I. The Appellant (proprietor) lodged an appeal received on 29 April 2015 against the decision of the opposition division dispatched on 17 March 2015 on the revocation of the patent EP 2 050 347, and simultaneously paid the appeal fee. The statement setting out the grounds of appeal was received on 27 July 2015.
- II. The opposition was filed against the patent as a whole and based on Article 100(a) together with 52(1), 54(1) and 56 EPC. The opposition division held that the subject-matter of claim 1 as amended according to the main request lacked an inventive step having regard to the following documents in particular:  
D1: DE 100 27 229 A1  
D2: DE 42 36 461 A1  
D4: US 6 793 062 B2  
D6: EP 221 683 B1  
D7: EP 654 426 B2
- III. Oral proceedings were held on 15 February 2019.
- IV. The Appellant requests that the decision under appeal be set aside, and the patent be maintained in an amended form on the basis of any of the main request filed on 14 December 2018 or Auxiliary Requests 2 or 3, both filed during oral proceedings on 15 February 2019.
- V. The Respondent (opponent) requests that the appeal be dismissed.
- VI. The wording of the independent claim 1 of the relevant requests reads as follows:

*Main request*

"A cigarette transfer device in manufacturing systems for cigarettes, comprising a chain conveyor (5) designed to transport a continuous and substantially uniform layer (7) of cigarettes (8), wherein the conveyor (5) consists in a plurality of modular elements (15) connected one to the next by hinge means (16) and presenting respective tops (17) that combine to create a transport surface (18) carrying the cigarettes (8), wherein the transport surfaces (18) of the single modular elements (15) combine to create a substantially continuous surface (9) on which the continuous layer (7) of cigarettes (8) is supported and transferred along various segments (10,11,12,13) of a feed path (6), said various segments comprising straight segments (10), curved segments (11) centred on vertical axes orthogonal to the path (6), an inclined segment (12) and a spiral segment (13) functioning as an in-line storage unit or buffer of variable volume, characterized in that each top (17) presents a soft outer layer (22) having a high coefficient of friction to ensure the cigarettes grip the transport surface firmly and preventing that the advancing layer of cigarettes slips during the course of the transfer, the outer layer being co-moulded with and onto the relative modular element (15), and in that the flat top (17) of the single modular element (15) is substantially rectangular in outline and fashioned with toothed profiles (21) along two longitudinal sides disposed transversely to the feed direction (F), designed to interlock freely, allowing a given degree of clearance, with the toothed profiles (21) of the adjoining modular elements (15)."

*Auxiliary request 2*

1. A method of fashioning modular elements from plastic material by moulding, to serve as components of a conveyor (5) in a manufacturing system (1) for cigarettes (8) comprising a chain conveyor (5) designed to transport a continuous and substantially uniform layer (7) of cigarettes (8), wherein the conveyor (5) consists in a plurality of modular elements (15) connected one to the next by hinge means (16) and presenting respective tops (17) that combine to create a transport surface (18) carrying the cigarettes (8), wherein the transport surfaces (18) of the single modular elements (15) combine to create a substantially continuous surface (9) on which the continuous layer (7) of cigarettes (8) is supported and transferred along various segments (10, 11, 12, 13) of a feed path (6), said various segments comprising straight segments (10), curved segments (11) centred on vertical axes orthogonal to the path (6), an inclined segment (12) and a spiral segment (13) functioning as an in-line storage unit or buffer of variable volume, wherein each modular element (15) presents a respective top (17) functioning as a transport surface (18), and a body (19) connectable to adjoining modular elements (15), wherein the top (17) of the modular element is substantially rectangular in outline and fashioned with toothed profiles (21) along two longitudinal sides disposed transversely to the feed direction (F), designed to interlock freely, allowing a given degree of clearance, with the toothed profiles (21) of adjoining modular elements (15), and wherein the transport surface (18) of the moulded modular element (15) is obtained by co-moulding onto it a layer (22) of soft plastic material having a high coefficient of friction to ensure the cigarettes grip the transport surface firmly and preventing that the advancing layer of cigarettes slips during the course of the transfer, wherein the co-moulding process includes a first step of moulding the modular element (15) out of the plastic material, employing a mould equipped with a movable wall on the side coinciding with the transport surface (18), and, as the plastic material cools, the movable wall is distanced by parallel translation, creating a space into which said soft plastic material having a high coefficient of friction is injected to form the layer (22).

*Auxiliary request 3*

**1.** A method of fashioning modular elements from plastic material by moulding, to serve as components of a conveyor (5) in a manufacturing system (1) for cigarettes (8) comprising a chain conveyor (5) designed to transport a continuous and substantially uniform layer (7) of cigarettes (8), wherein the conveyor (5) consists in a plurality of modular elements (15) connected one to the next by hinge means (16) and presenting respective tops (17) that combine to create a transport surface (18) carrying the cigarettes (8), wherein the transport surfaces (18) of the single modular elements (15) combine to create a substantially continuous surface (9) on which the continuous layer (7) of cigarettes (8) is supported and transferred along various segments (10, 11, 12, 13) of a feed path (6), said various segments comprising straight segments (10), curved segments (11) centred on vertical axes orthogonal to the path (6), an inclined segment (12) and a spiral segment (13) functioning as an in-line storage unit or buffer of variable volume, wherein each modular element (15) presents a respective top (17) functioning as a transport surface (18), and a body (19) connectable to adjoining modular elements (15), wherein the top (17) of the modular element is substantially rectangular in outline and fashioned with toothed profiles (21) along two longitudinal sides disposed transversely to the feed direction (F), designed to interlock freely, allowing a given degree of clearance, with the toothed profiles (21) of adjoining modular elements (15), and wherein the transport surface (18) of the moulded modular element (15) is obtained by co-moulding onto it a layer (22) of soft plastic material having a high coefficient of friction to ensure the cigarettes grip the transport surface firmly and preventing that the advancing layer of cigarettes slips during the course of the transfer, wherein the co-moulding process includes a first step of moulding the modular element (15) out of the plastic material, employing a mould equipped with a movable wall on the side coinciding with the transport surface (18), and, as the plastic material cools, the movable wall is distanced by parallel translation, creating a space into which said soft plastic material having a high coefficient of friction is injected to form the layer (22), such that the layer (22) forms an integral part of the flat top (17).

VII. The Appellant argues as follows:

- Concerning the main request, starting from D4 the objective problem should be more general to prevent any relative movement of the cigarettes carried by the modular element. D6 belongs to the same technical field, and the skilled person would thus consider this solution as the best one among various possible solutions. In applying this teaching he would however arrive at a different subject-matter than that defined in claim 1.

- As for the second and third auxiliary requests these pursue subject-matter of the auxiliary request that the opposition division should have admitted into the proceedings. The claim does not contravene Article 123(2) and (3) because the skilled person reading the claim can easily resolve any issues by a contextual reading of the claim.

VIII. The Respondent argues as follows:

- Since the cigarettes are transported as a layer they cannot roll and the technical problem is therefore to avoid slipping of the layer of cigarettes on the conveyor. D1 belongs to the technical field of conveyors, as does the transfer device of claim 1. Therefore the skilled person starting from D4 would consider D1's teaching relevant and apply it to arrive at the claimed subject-matter using the conveyor surface structure taught therein.

- Claim 1 of second and third auxiliary requests omits features that were defined in the granted claim 1 and therefore extend the scope of protection of the patent.



## Reasons for the Decision

1. The appeal is admissible.
2. Inventive step
  - 2.1 Claim 1 defines a cigarette transfer device in manufacturing systems for cigarettes. In the present main request claim 1 has been amended by further defining how the modular elements combine to create a continuous path having several types of segments and, using the wording of paragraph 17, by specifying that the path comprises straight segments, curved segments centred on vertical axes orthogonal to the path, an inclined segment, and a spiral segment functioning as an in-line storage unit or buffer of variable volume.
  - 2.2 Document D4, see figure 1, the abstract and its opening paragraph, discloses a reservoir for rod-like articles, such as cigarettes, in which a conveyor consisting of a plurality of modular elements, see figure 4b, combine to create a continuous surface along various segments of a feed path also comprising straight segments, curved segments centred on vertical axes orthogonal to the path, and an inclined segment. Figure 4b in conjunction with figure 4c show the modular elements to have flat tops which are substantially rectangular with toothed profiles on their longitudinal sides interlocking with neighbouring elements. It is common ground that D4 represents a suitable starting point for the assessment of inventive step.
  - 2.3 Figure 4c of D4 depicts a belt element and the corresponding passage in column 7 lines 6 to 19 explains that each element is of a T-shaped cross section and has a platform. D4 is not concerned with

the material and physical composition of the individual elements , and it is undisputed that therefore the subject-matter of claim 1 of the main request differs from the cigarette transfer device of D4 in that each top -of a modular element- presents a soft outer layer having a high coefficient of friction to ensure the cigarettes grip the transport surface firmly, preventing the advancing layer of cigarettes slipping in the course of the transfer, the outer layer being co-moulded with and onto the respective modular element.

- 2.4 The Appellant argues that this difference serves to prevent both rolling and slippage, in particular rolling of individual cigarettes during start up of the transport belt, when it is not fully filled, and slippage later on when the belt is completely filled. The Board is unconvinced of this rather broad formulation of the problem to be solved. Firstly, there is no mention of the problem of rolling or other relative movement of individual cigarettes, let alone that this is solved by the differing features. The claim itself rather states that the soft layer of high coefficient of friction "ensure[s] the cigarettes grip the transport surface firmly ... preventing that the advancing layer of cigarettes slips during the course of the transfer". This is entirely consistent with the technical effect explained in paragraph 0010 of the patent stating the aim of the patent. Paragraph 0016 of the patent clearly states that the tobacco products are directed by the conveyor along a feed path advancing as a continuous layer 7 of substantially constant depth. This is also shown in figure 1 at reference numeral 7. D4 describes the very same manner of transport of a layer of cigarettes: "[the] articles themselves are usually conveyed in the form of a continuous multi-

layer stream of articles or "carpet" moving in a direction transverse to the lengths of the articles themselves" (col. 1, lines 10-13). This layer forms a continuous layer of cigarette articles closely and tightly packed together and held in close frictional contact with each other at multiple points about their circumference, so that movement of individual cigarettes with respect to each other including rolling movement will be limited, in particular also where the layer of cigarettes is in contact with the transport surface.

From the above the Board concludes that the associated objective technical problem is rather that as originally stated in paragraph 0010 of the patent itself. In relation to other prior art the use of soft facing material is thus linked to "prevent[ing] any possibility that the advancing layer of cigarettes could slip during the course of transfer, especially on the curved and inclined stretches". Starting from D4, which lacks any detail of the element top surface, the objective technical problem can be formulated accordingly, as preventing any slippage of the cigarette layer, in particular on curved or inclined stretches.

- 2.5 The Appellant further argues that the skilled person in search of a solution to the above broader problem would obviously choose a solution in the same field as D4 before looking further afield in related or neighbouring technical fields. They would thus rather use the teaching of D6 lying in the same technical field as D4, and would not consider D1 as it does not address the problem of roll. D6 teaches to provide projections 6 made on the upper part of the support 3 (col 2, lines 50-52). The skilled person would thus be

satisfied with this solution and would thus not need to seek solutions further afield, e.g. in the more general field of conveyor belts, such as that of D1. In support for their submission the Appellant cites decision **T0176/84**.

- 2.6 The Board is unconvinced by the above arguments. As held in landmark decision **T0176/84** cited by the Appellant, "the state of the art to be considered when examining for inventive step includes, as well as that in the specific field of the application, the state of any relevant art in neighbouring fields and/or a broader general field of which the specific field is part, that is to say any field in which the same problem or one similar to it arises and of which the person skilled in the art of the specific field must be expected to be aware" (see headnote; see also Case Law of the Boards of Appeal, 8th edition, 2016 I.D.8.2: "Neighbouring field"). Even if reasons 5.3.1 this decision appears to suggest that the skilled person looks to other neighbouring fields if necessary, i.e. if he does not find any useful suggestions for the solution of the relevant problem in the current field, it is clear from the final sentence that he will as a matter of course consider state of the art in the general technical field which deals with the same or similar problems. This point is further developed in landmark decision **T0195/84** (also cited in CLBA, I.D. 8.2), which adds (headnote) that "the state of the art to be considered when examining for inventive step includes, as well as that in the specific field of the application, the state of any relevant art in neighbouring fields and the state of the art in a non-specific (general) field dealing with the solution of any general technical problem which the application seeks to solve in its specific field. Such solutions of

general technical problems in non-specific (general) fields must be considered to form part of the general technical knowledge which a priori is to be attributed to those skilled persons versed in any specific technical field".

Thus, such state of the art solutions in neighbouring fields or in a broader, non-specific field also belong to the skilled person's knowledge, in addition to his knowledge of all art in the specific field in question. When searching for a solution to a given problem the skilled person draws upon the totality of this knowledge. This may even offer a variety of solutions, each of which may be adopted in straightforward manner without inventive skill. That, depending on the particular circumstances, certain of the solutions might be more preferable, or "better", or even "the best", cannot detract from the conclusion that each of these solutions considered separately is obvious. Thus, the mere fact that a solution to a given problem might be available in the specific field, does not make application of known solutions to the same or similar problems that exist in neighbouring or broader, relevant fields less obvious. Nor does the mere selection of one amongst a number of different possible known solutions, that would be obvious when considered separately, of itself render the selected solution inventive (cf. Case Law of the Boards of Appeal, 8th edition, 2016 I.D.9.18.7).

2.7 In the present case, the skilled person in search of a solution to the problem of slippage during transfer on a chain conveyor, would thus also draw upon his knowledge of solutions of the same or similar problems known to them in the more general field of chain conveyors. D1 concerning chain conveyors in general,

offers such a solution to the stated problem. Paragraph [0011] expressly mentions the problem of slippage, and to that end suggests realizing the support surface out of a material having a higher coefficient of friction ("Reibungszahl"). Paragraph [0013] details an embodiment in which the conveyor belt (Förderkette) comprising modular elements 1 ("Kettengleiter") is made by co-moulding ("Mehrkomponenten-Spritzgußverfahren") to obtain an outer layer 3 with a high coefficient of friction (cf. paragraph [0028], lines 42-46). By a straightforward realisation of the platform of the T-shaped element according to D4 as a co-moulded outer layer according to D1, the skilled person would arrive without an inventive step at the configuration defined in claim 1. Co-moulding has the added benefit of providing an intimate, tight and very secure bond in comparison to e.g. an outer layer adhesively that is affixed to the link element and which is susceptible to breaking off due to mechanical stresses and wear. Thus co-moulding would minimize the risk of fragments of the outer layer breaking off, and finding their way into packaged groups of cigarettes. This added benefit is a "bonus effect". As the intimate, secure bonding is a well-known feature of co-moulding, this effect is to be expected and therefore does not justify the presence of an inventive step (cf. CLBA, I.D.10.8). By adopting this solution for slippage in the chain conveyor of D1 the skilled person would arrive at the transfer device of claim 1 without inventive activity.

2.8 That D1 would concern only slippage of heavy or large objects, and would therefore not be considered by the skilled person concerned with cigarette conveyance, as additionally argued by the Appellant, is not apparent to the Board from paragraph [0028]. It is true that

this passage (lines 33 to 42) also considers low friction surfaces if fragile material is to be conveyed smoothly through congestion areas without falling over. However this does not mean that the high friction variant discussed in the following lines 42 to 50 must refer to similar objects. These lines rather mention strongly gliding material ("stark gleitendem Fördergut") without any limitation or indication of their specific nature. The skilled person would recognize that a layer of cigarettes fits this bill.

2.9 Nor is the Board convinced of the Appellant's further argument that the skilled person would not consider D1 because it is primarily concerned with improving the gliding properties of the elements in their guide rails, cf. paragraph [0006]. The same paragraph also identifies the optimal properties of the element with respect to the objects to be conveyed as a central concern ("nicht nur im Hinblick auf ... sondern darüber hinaus ..."), and both concerns are addressed by co-moulding using respective suitable materials. Whether the skilled person recognizes that he can address slippage independently by suitable co-moulding (the Board believes this is within his limited skills of abstraction) is thus immaterial. In any case there is nothing in D1 that speaks against adopting both aspects of the solution of D4. Nor has it been argued that there would be any difficulty or incompatibility that might deter the skilled person from applying the teaching of D1 to D4.

2.10 Finally, as already intimated in section 2.6 above, selecting D1 from among various possible alternative solutions, namely those offered by D1, D6, D2 or D7, does not of itself involve an inventive step if each of these solutions when considered separately is obvious.

This is regardless of whether the other solutions might be "more suitable" or "more preferred".

2.11 From the above it follows that the cigarette transfer device of claim 1 lacks an inventive step in view of D4 in combination with the teaching of D1, and the Board thus confirms the findings of the Opposition Division in that respect.

3. Second and third Auxiliary requests

3.1 Both auxiliary requests were filed at an advanced stage of the proceedings, namely at the oral proceedings after discussion of the main request and after the Chairman of the Board announced that claim 1 of the main request lacked an inventive step.

3.2 Both these requests include a single independent claim 1 defining a method of fashioning modular elements from plastic material based on granted independent claim 2. The filing of such amended requests based on a single independent claim 1 directed at a method represents a significant change in the Appellant's case vis-a-vis the previous requests in which the independent claim 1 was directed at a device. Thus the second and third auxiliary requests amount to an amendment to the Appellant-Proprietor's case in the sense of Article 13(1) of the Rules of Procedure of the Boards of Appeal (RPBA). Furthermore, under Article 13(3) RPBA any amendments sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the Board or the parties cannot reasonably be expected to deal with without an adjournment.



3.3 The approach consistently adopted by the Boards when exercising their discretion in admitting such amendments consists in identifying whether they are clearly allowable in the sense that it can be quickly ascertained that they overcome all outstanding issues without raising new ones, see Case Law of the Boards of Appeal, 8th edition, 2016 (CLBA) IV.E.4.2.6 b) and the case law cited therein.

3.4 The Appellant's view that the opposition division erred in not admitting the auxiliary request filed during oral proceedings in opposition that contained a similar method claim is of little relevance in the present context as contrary to the auxiliary request submitted in the first instance, the present second and third auxiliary request only include a single independent claim and thus constitute different requests.

In relation to the issue of clear allowability the Board notes that method claim 1 expressly incorporates into the corresponding method claim 2 as granted apparatus features that in that claim were implied by back reference to granted apparatus claim 1 now deleted. However as pointed out by the Respondent vis-a-vis granted apparatus claim 1 the wording of claim 1 omits the requirement that each top presents a soft outer layer and that the outer layer is co-moulded with and onto the modular element. Apart from possible issues of textual consistency and clarity on the face of it this omission would appear to give rise to an extension of the scope of protection contrary to Article 123(3) EPC.

Contrary to the Appellant's opinion, in the Board's view these new issues are neither trivial nor easily resolved by a contextual reading of the claim wording, but will require further investigative effort as was evident from the parties' submissions at the oral proceedings. For these reasons the Board concluded at the oral proceedings that claim 1 does not appear clearly allowable, and decided to use its discretion under Articles 13(1) and (3) RPBA not to admit the second and third auxiliary requests into the proceedings.

4. As the Board confirms the appealed decision's finding of lack of inventive step for the main request, and it does not admit the auxiliary requests 2 and 3 into the proceedings can but confirm the impugned decision to revoke the patent.

**Order**

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

**The Appeal is dismissed**

The Registrar:

The Chairman:



G. Magouliotis

A. de Vries

Decision electronically authenticated