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**Datasheet for the decision
of 18 June 2008**

Case Number: T 0440/07 - 3.2.07

Application Number: 00929316.8

Publication Number: 1196341

IPC: B65G 47/38

Language of the proceedings: EN

Title of invention:

A sorting conveyer with a tilting mechanism

Patentee:

FKI Logistex A/S

Opponents:

Beumer Maschinenfabrik GmbH & Co. KG
Vanderlande Industries Nederland B.V.

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56, 84, 100b)
RPBA Art. 13(1)

Relevant legal provisions (EPC 1973):

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Keyword:

"Main request - sufficiency of disclosure (yes)"
"Novelty (yes)"
"Inventive step (no)"
"Auxiliary requests - clarity (no)"
"General technical knowledge"

Decisions cited:

Catchword:

See points 1.4, 1.5, 5.6 of the reasons.



Case Number: T 0440/07 - 3.2.07

D E C I S I O N
of the Technical Board of Appeal 3.2.07
of 18 June 2008

Appellant 01: Beumer Maschinenfabrik GmbH & Co. KG
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
9 January 2007 concerning maintenance of
European patent No. 1196341 in amended form.

Composition of the Board:

Chairman: K. Poalas
Members: H.-P. Felgenhauer
I. Beckedorf

Summary of Facts and Submissions

I. This decision concerns the appeal of the appellants-opponents 01 and 02 (in the following: appellants 01, 02) and of the appellant-proprietor (in the following: patent proprietor) against the interlocutory decision of the Opposition Division according to which European patent No. 1 196 341 has been maintained in amended form.

Opposition was filed against the patent in its entirety based on the grounds of opposition according to Article 100a) EPC (lack of novelty and of inventive step) and according to Article 100b) EPC (insufficiency of the disclosure).

II. According to the impugned decision the European patent discloses the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. The subject-matter of claim 1 as granted, corresponding to claim 1 according to the main request in the appeal proceedings, has been considered as lacking novelty with respect to D7 (EP-A-0 568 125). Claim 1 as maintained according to this decision, which corresponds to claim 1 according to the second auxiliary request in the appeal proceedings, has been considered as satisfying the requirement of Article 123(2) EPC and further as being novel and involving an inventive step with respect to the sorter according to D7.

III. Claim 1 according to the main request (claim 1 as granted), the first auxiliary request as submitted with letter dated 30 May 2008 and the second auxiliary

request (claim 1 as maintained by the impugned decision)
read as follows:

a) Main request

"1. A sorter comprising
a stationary track,
movable conveyor means arranged for moving along the
track,
conveyor drive means for driving the conveyor means
along the track,
a plurality of tilting mechanisms arranged on the
conveyor means, each comprising a frame part (7) being
stationary with respect to the conveyor means,
a tilting part (6) for supporting an article-supporting
part of the sorter, the article-supporting part having
an article-supporting surface,
tilt drive means for tilting the tilting part (6) of
the mechanism in a direction substantially
perpendicular to the direction of movement of the
sorter,
at least one induction station for loading articles
onto the article-supporting surfaces, and
at least one discharge station for receiving articles
being discharged from the article-supporting parts,
characterised in that
the sorter further comprising a plurality of control
units being arranged on the conveyor means, each
control unit controlling the operation of the tilt
drive means of at least one of said tilting mechanisms
so that each tilt drive means is controlled by one of
said control units, the control units being adapted to
move the tilting parts (6) to an inclined position of
the article-supporting surfaces when passing curves in

the horizontal plane of the track so as to prevent articles supported on the article-supporting parts of the tilting parts (6) from sliding off the article-supporting surface in a direction perpendicularly to the direction of movement of the conveyor means, the control units further being adapted to move said article-supporting parts to a substantially horizontal position of the article-supporting surface when passing straight sections of the track."

b) First auxiliary request

"1. A sorter comprising
a stationary track,
movable conveyor means arranged for moving along the track,
conveyor drive means for driving the conveyor means along the track,
a plurality of tilting mechanisms arranged on the conveyor means, each comprising a frame part (7) being stationary with respect to the conveyor means,
a tilting part (6) for supporting an article-supporting part of the sorter, the article-supporting part having an article-supporting surface,
tilt drive means for tilting the tilting part (6) of the mechanism in a direction substantially perpendicular to the direction of movement of the sorter,
at least one induction station for loading articles onto the article-supporting surfaces, and
at least one discharge station for receiving articles being discharged from the article-supporting parts,
characterised in that

the sorter further comprising a plurality of control units being arranged on the conveyor means, each control unit controlling the operation of the tilt drive means of at least one of said tilting mechanisms so that each tilt drive means is controlled by one of said control units, the control units being adapted to move the tilting parts (6) to an inclined position of the article-supporting surfaces when passing curves in the horizontal plane of the track so as to prevent articles supported on the article-supporting parts of the tilting parts (6) from sliding off the article-supporting surface in a direction perpendicularly to the direction of movement of the conveyor means, the control units further being adapted to move said article-supporting parts to a substantially horizontal position of the article-supporting surface when passing straight sections of the track, and wherein the inclination of the article-supporting surfaces in said inclined position is variable and its actual magnitude is determined by the control units from the conveying speed of the conveyor means and wherein the angle of tilting is adapted in dependence of the conveying speed of the sorter and/or the curvature so that counteracting of centrifugal forces is of such a degree that articles are prevented from sliding off the article-supporting parts"

c) Second auxiliary request

"1. A sorter comprising
a stationary track,
movable conveyor means arranged for moving along the
track,

conveyor drive means for driving the conveyor means along the track,
a plurality of tilting mechanisms arranged on the conveyor means, each comprising a frame part (7) being stationary with respect to the conveyor means,
a tilting part (6) for supporting an article-supporting part of the sorter, the article-supporting part having an article-supporting surface,
tilt drive means for tilting the tilting part (6) of the mechanism in a direction substantially perpendicular to the direction of movement of the sorter,
at least one induction station for loading articles onto the article-supporting surfaces, and
at least one discharge station for receiving articles being discharged from the article-supporting parts, characterised in that
the sorter further comprising a plurality of control units being arranged on the conveyor means, each control unit controlling the operation of the tilt drive means of at least one of said tilting mechanisms so that each tilt drive means is controlled by one of said control units, the control units being adapted to move the tilting parts (6) to an inclined position of the article-supporting surfaces when passing curves in the horizontal plane of the track so as to prevent articles supported on the article-supporting parts of the tilting parts (6) from sliding off the article-supporting surface in a direction perpendicularly to the direction of movement of the conveyor means, the control units further being adapted to move said article-supporting parts to a substantially horizontal position of the article-supporting surface when passing straight sections of the track, and wherein a plurality

of tilting mechanisms, preferably each of the tilting mechanisms comprises a logical unit and wherein the degree of tilt during passage of horizontal curves is calculated or otherwise determined by means of the logical unit, and wherein the angle of tilting is adapted in dependence of the conveying speed of the sorter and/or the curvature so that counteracting of centrifugal forces is of such a degree that articles are prevented from sliding off the article-supporting parts."

IV. On 18 June 2008 oral proceedings before the Board took place. The requests of the parties are as follows.

Appellants 01 and 02 requested the decision under appeal to be set aside and that the patent be revoked.

In the course of the oral proceedings appellant 02 withdrew its request for reimbursement of the appeal fee.

The patent proprietor requested that the decision be set aside and the patent be maintained as granted (main request) or by setting aside the decision under appeal the patent be maintained in amended form on the basis of claim 1 filed with letter dated 30 May 2008 (first auxiliary request), or the appeals of opponents 01 and 02 be dismissed and, by this, the patent be maintained as upheld in the decision under appeal (second auxiliary request).

V. The facts and arguments relied upon by appellants 01 and 02 are essentially as follows:

- (a) The invention defined by the claims of the various requests is not disclosed in a manner sufficient for it to be carried out by the person skilled in the art since concerning the control of the sorter only a general concept is referred to. Since essentially no information is given on how this general control concept is put into practice an undue burden is imposed on the person skilled in the art.

- (b) Claim 1 as formulated according to the main request does not exclude that the sorter is controlled next to the plurality of control units referred to by other control means.

- (c) Although the disclosure of D7 explicitly refers to remotely controlled driving means it needs to be considered that the drive means by themselves have control units directly associated with them. Consequently D7 discloses not only the general control concept according to which a central control unit is provided for all of the conveyor means but beyond that the general control concept according to which the control concepts of having a central control and of having a control unit provided on each conveyor means are combined.

- (d) Since the control for both, the sorter according to claim 1 of each of the requests and the sorter according to D7, have to be considered as being based on a control for which the control concepts of having a central control unit for all conveyor means and the one of having a control unit on each conveyor means are combined or united

and since furthermore the structural features are alike, the sorters according to claim 1 of each request lack novelty with respect to D7.

- (e) Starting from the sorter according to D7 as closest prior art the problem to be solved by the sorters of claim 1 according to all of the requests can only be seen in providing a control which is based on a different one of three generally known control concepts. According to the first one of these concepts, corresponding to the one defined in claim 1 of all requests, a plurality of control units, each one arranged on a particular conveyor means, is provided. According to the second one, corresponding to the control foreseen according to D7, a remote control with a central control unit is provided, whereas the third control concept results from a combination of the first and second control concepts.
- (f) Since it is evident that depending on circumstances the person skilled in the art can employ a control based on either one of the known control concepts without essential modifications of the structure of the sorter being required, the sorters according to claim 1 of any request do not involve an inventive step.
- (g) Claims 1 according to the first and the second auxiliary request are not clear since the expression "conveying speed of the sorter" and consequently the manner in which the angle of tilting is adapted are unclear. In addition the sorter according to claim 1 of the second

auxiliary request is unclear since, despite their identical functions, the relationship between the control units and each of the logical units referred to in this claim remains completely undefined.

VI. The facts and arguments relied upon by the patent proprietor are essentially as follows:

- (a) Arguments concerning the ground of opposition according to Article 100b) EPC which, for the first time, have been presented at the oral proceedings before the Board should not be considered in view of their lateness. The invention defined by claims 1 of all of the requests is sufficiently disclosed in the patent in suit for it to be carried out by the person skilled in the art taking into account the general technical knowledge. Concerning the control means the patent in suit discloses the general concept to be applied. Starting therefrom it is evident for the person skilled in the art how to apply this concept in practice and how to devise the control units required.
- (b) Claim 1 according to the main request needs to be understood as relating to a sorter being exclusively controlled by a plurality of control units being arranged on the conveyor means.
- (c) The disclosure of D7 clearly refers to remotely controlled driving means which needs to be understood as a clear indication for the sorter being controlled by a central control unit and

thus according to a different control concept as the one underlying the sorter according to the patent in suit.

- (d) The difference between the control concepts underlying the sorter according to claim 1 of the patent in suit as granted and the sorter according to D7 leads to the sorter according to claim 1 as granted being novel.
- (e) Starting from the sorter according to D7 as closest prior art the person skilled in the art attempting to improve this sorter would not consider a control concept other than the one underlying this document, but would rather attempt to make modifications within the framework of this control concept to further improve the known sorter. The subject-matter of claim 1 as granted therefore involves an inventive step.
- (f) Claims 1 according to the first and the second auxiliary request satisfy the clarity requirement of the EPC.

Reasons for the decision

Main request

1. Sufficiency of disclosure

According to appellants 01 and 02 the ground of appeal according to Article 100b) EPC prejudices the maintenance of the patent in suit.

The main argument in this respect and the one essentially relied upon in the oral proceedings concerns the disclosure of the patent in suit with respect to the **control of the movable conveyor means** of the sorter.

Claim 1 defines in this respect as **means** that "a plurality of **control units** being arranged on the conveyor means, each control unit controlling the operation of the tilt drive means of at least one of said tilting mechanisms so that each tilt drive means is controlled by one of said control units" and as the **objective** to be achieved by these means "the **control units being adapted to move the tilting parts (6) to an inclined position** of the article-supporting surfaces **when passing curves** in the horizontal plane of the track **so as to prevent articles supported on the article-supporting parts** of the tilting parts (6) **from sliding off** the article-supporting surface in a direction perpendicularly to the direction of movement of the conveyor means".

1.1 According to appellants 01 and 02 the patent in suit does not give a sufficient disclosure concerning

- (a) the algorithm according to which data are processed within each of the control units,
- (b) the parameters to be entered into each control unit as input data and

- (c) numerical values to be provided as input data in a particular case, namely for a particular conveyor means charged with a particular article.

Concerning items b) and c) appellants 01 and 02 further argued that for each conveyor and each article individual numerical values for parameters like conveying speed, weight and/or geometry of the article and its coefficient of friction (cf. column 7, lines 50 - 52; column 13, line 57 - column 14, line 6) need to be entered into the control unit as input data, since the centrifugal forces to be counteracted by means of tilting of the article-supporting surface by a certain degree as controlled by the control units (cf. column 10, lines 10 - 16) depend on such values of each particular case.

- 1.2 The patent proprietor raised the objection that these arguments have been presented for the first time at the oral proceedings and should thus not to be admitted as having been late filed.

The Board cannot follow this view already for the reason that these arguments are not ones raised for the first time at the oral proceedings but ones which merely expand corresponding arguments already referred to in the grounds of appeal of appellant 02 filed with letter dated 4 May 2007 under the heading "Insufficient disclosure (art 100(b) EPC; art 83 EPC)". There it has already been indicated "that none of the embodiments which are disclosed in the OP with reference to the figures thereof disclose some kind of control units let alone any feature associated with such control units" (page 7, last paragraph).

1.3 Replying to these arguments in substance the patent proprietor consented to the characterisation of information required with regard to the control units according to items a) - c) indicating that the addressee of the patent in suit is the person skilled in the art which, under the circumstances of the present case, starting from the disclosure of the patent in suit with respect to the control units (cf. e.g. column 9, lines 34 - 44; column 10, lines 10 - 16; column 13, line 57 - column 14, line 6) and the parameters referred to (column 7, lines 50 - 52; column 13, line 57 - column 14, line 6) derives from general knowledge, including the laws of nature, the manner in which data are processed within each of the control unit and thus the algorithm to be applied at each control unit (item a)). Establishing the algorithm the person skilled in the art naturally has to make a choice as to the parameters to be used as input data (item b)). Criteria for such a choice affecting the design of a control unit will e.g. be the effort to be put in the control of the tilting angle and the degree of accuracy to be achieved for the control of the tilting angle. Having established the algorithm and based thereon also having selected the parameters serving as input data, according to the patent proprietor the person skilled in the art can rely on general technical knowledge for measuring the numerical values of the parameters selected as input data (item c)).

1.4 According to the patent proprietor thus **based on the general technical knowledge and necessary design choices**, depending e.g. on the desired degree of

accuracy of the controlling and the effort to be taken for the controlling of the conveyor means, which are at the disposition or evident for the person skilled in the art, **control units can be devised which lead to the effect defined in claim 1**, namely to prevent articles from sliding off when passing curves in the horizontal plane of the track, without undue burden having to be exercised.

- 1.5 Concerning the objection of appellants 01 and 02 that the patent proprietor carries the **burden of proof with respect to evidence for the general technical knowledge** relied upon with respect to the question of sufficiency of disclosure, the Board is of the opinion that, as remained undisputed in the discussion at the oral proceedings, the basic algorithm governing the calculation of centrifugal forces in the desired degree of accuracy can be derived from the laws of nature by the skilled person without undue burden. Likewise it is within the means of the skilled person to make assumptions simplifying the governing equations to facilitate their use under the conditions of the present case, depending e.g. on the required degree of simplification and/or the required degree of accuracy and response of the control system. It is evident that for an algorithm devised in this manner the selection of parameters, for which numerical values as input data are to be provided lies within the regular practice of the person skilled in the art. Concerning numerical values for the parameters selected as input data for a control unit encompassing an algorithm of the kind concerned it is undisputed that appropriate methods of measurement with the desired degree of accuracy are known from the general technical knowledge.

1.6 The Board is thus of the opinion that the patent in suit discloses the invention according to claim 1 of the main request in a manner sufficiently clear for it to be carried out by a person skilled in the art, such that the ground of opposition according to Article 100b) EPC does not prejudice the maintenance of the patent according to the main request.

2. Subject-matter of claim 1

It is undisputed that claim 1 defines a sorter comprising a movable conveyor means and conveyor drive means. Concerning the conveyor drive means it is further undisputed that a plurality of tilting mechanisms is arranged on the conveyor means, each comprising a stationary frame part, a tilting part for supporting an article-supporting part having an article supporting surface and **tilt drive means** for tilting the tilting part of the mechanism in a direction substantially perpendicular to the direction of movement of the sorter (understood as: movement of the conveyor means).

2.1 A controversy exists as to which **control concept** for the **control of the tilt drive means** is defined by the features of claim 1 being directed to the control of the tilt drive means, according to which

- (a) the sorter comprises a plurality of control units being arranged on the conveyor means, each control unit controlling the operation of the tilt drive means of at least one of said tilting

mechanisms so that each tilt drive means is controlled by one of said control units,

(b) the control units are adapted to move the tilting parts to an inclined position of the article-supporting surfaces when passing curves in the horizontal plane of the track so as to prevent articles supported on the article-supporting parts of the tilting parts from sliding off the article-supporting surface in a direction perpendicularly to the direction of movement of the conveyor means,

(c) the control units further are adapted to move said article-supporting parts to a substantially horizontal position of the article-supporting surface when passing straight sections of the track.

2.2 According to appellants 01 and 02 features a) - c) do, in combination with the remaining features of claim 1, not exclude that a further control means, e.g. one comprising a central control unit remotely controlling at least partially the operation of the tilt drive means, is provided. In support of this allegation appellants 01 and 02 referred to a portion of the disclosure of the patent in suit (column 13, lines 17 - 24) stating "Alternatively, the control units each comprises data communication means and the sorter comprises a plurality of signal devices being arranged along the stationary track and each being associated with a curve in the horizontal plane of the track, said data communication means being adapted for detecting a signal device and induce the control unit to initiate

inclination of the article-supporting surfaces accordingly."

- 2.3 According to the patent proprietor this portion of the description relates to the manner in which the plurality of control units being arranged on the conveyor means according to feature a) are provided with input data, which can be generated by signal devices and transmitted to the each one of the control units. Using such input data however does not have any impact on the control concept as defined by features a) - c) of claim 1.

The Board considers that the portion of the description concerned can, in view of its context within the description, namely following a description of the subject-matter of claim 1 (cf. column 12, line 27 - column 13, line 16), and in view of its content, according to which in line with feature a) a plurality of control units, each comprising data communication means, is referred to, only be seen as directly relating to the subject-matter of claim 1 and the control concept defined therein by features a) - b).

- 2.4 Concerning the definition of the control concept within claim 1 the Board is of the opinion that by means of features a) - c) it is defined, that each one of the movable conveyor means has an associated control unit arranged on it, by which the drive means likewise mounted on the conveyor means can be controlled.

Since according to claim 1, features b) and c), the control units are adapted to move the tilting parts to an inclined position of the article-supporting surface

when passing curves in the horizontal plane of the track so as to prevent articles supported on the article-supporting parts of the tilting parts from sliding off the article-supporting surface in a direction perpendicularly to the direction of movement of the conveyor means, and further to move said article-supporting parts to a substantially horizontal position of the article-supporting surface when passing straight sections of the track, in the Board's view the control units are the sole controlling means comprised by the sorter according to claim 1 with respect to tilting of the article-supporting surfaces, since according to the effects defined by features b) and c) of claim 1 for the control units according to feature a) there is neither room for control via an additional, possibly central control means, nor any need for it.

Thus claim 1 cannot be interpreted against the wording of its features, in particular features a) - c), as to encompass, next to the control units clearly defined with respect to number, location and function, a further, possibly central, control means neither referred to in claim 1 nor the description of the patent in suit.

3. Disclosure of D7

It is undisputed that document D7 discloses a sorter comprising the features of the pre-characterising portion of claim 1 (cf. claim 1; figures 1 - 6).

It is further undisputed that according to D7 a central control unit is provided for remote control of driving means, each one being mounted on an associated conveyor

means (column 3, lines 39 - 43) and that the effects to be achieved by the remote control of motors provided on the conveyor means correspond to the ones defined by features b) and c) of claim 1.

- 3.1 According to appellants 01 and 02 the actuation of each of the motors, corresponding to the tilt drive means according to claim 1 of the patent in suit, as referred to in D7 (column 2, lines 42 - 54) needs to be considered as having, at least in part, the function defined by features b) and c) of claim 1 for the control units according to feature a). Consequently features a) - c) of claim 1 need to be considered as being implicitly disclosed for the sorter according to document D7.
- 3.2 According to patent proprietor document D7 does not implicitly disclose a feature corresponding to the arrangement of a control unit on an associated conveyor means according to feature a). This holds true even if the actuation of the motor as disclosed in D7 is associated with some kind of controlling directly associated with the controlling of the tilt drive means, since such controlling would not have the effects of the control units according to features b) and c) of claim 1, which, according to D7 are provided by a remote control.
- 3.3 Concerning the allegation of appellants 01 and 02 according to which control units as defined by features a) - c) are implicitly disclosed, the Board considers as criteria for such a disclosure, that the implicitly disclosed feature is directly and

unambiguously derivable from the explicit disclosure of document D7.

Concerning the controlling of the tilt drive means D7 discloses explicitly "During the movement of the carrying means 2 provided with the supporting surface 3 and supporting the motor 8, the motor 8 can be actuated in a manner known per se, by means of electronic, optical, acoustic and/or magnetic signals and the like ..." (column 2, line 42 - column 3, line 6) and furthermore "It will be apparent that thus many variations are conceivable for a remotely controlled driving means to be mounted on the carrying means 2, by means of which the supporting surface is pivotable with respect to the carrying means." (column 3, lines 39 - 43).

3.4 D7 thus explicitly discloses directly and unambiguously that each tilt drive means is remotely controlled. From this, undisputedly, the implicit feature can directly and unambiguously be derived, that a central control unit positioned outside the conveyor means is provided as the means enabling remote control of the tilt drive means.

4. Novelty

As indicated above (section 2.1) the control means according to claim 1 of the patent in suit are defined by features a) - c) wherein according to feature a) the sorter comprises a plurality of control units being arranged on the conveyor means, each control unit controlling the operation of the tilt drive means of at

least one of said tilting mechanisms so that each tilt drive means is controlled by one of said control units.

The sorter of claim 1 is distinguished from the one according to D7, which, as indicated above (sections 3.3, 3.4), only discloses remote control means with respect to the effect of control means according to features b) and c), by the arrangement of a plurality of control means according to feature a) (cf. section 2.1).

5. Inventive step

5.1 The parties agree to the sorter disclosed in D7 (cf. section 3. above) being considered as constituting the closest prior art.

The sorter according to claim 1 of the patent in suit is distinguished from the one according to D7 by the arrangement of control units according to feature a) (cf. sections 2.1 and 4.).

5.2 The difference between the sorter according to claim 1 and the one according to D7 thus lies in the manner in which control means are provided.

5.2.1 According to the **sorter of claim 1 a plurality of control units are arranged** according to feature a) on conveyor means wherein **each tilt drive means is controlled by one of the control units.**

5.2.2 Within the **sorter according to D7** each tilt drive means is **remotely controlled** (cf. section 3.4).

- 5.3 Various effects associated with this **distinguishing feature**, which **concerns the concept by which sorter is controlled**, were discussed, like different reliabilities and different consequences in case of a failure with respect to the control concept according to feature a) of claim 1 and the one based on remote control according to D7.
- 5.3.1 A further effect referred to by the patent proprietor, namely that the control according to claim 1 enables a more sensitive control due to allocation of individual control units on the conveyor means appears as not relating to the control concept based on feature a) but to the manner in which, irrespective of the control concept applied, the control is performed. A feature relating to this aspect is e.g. the feature of claim 1 according to the second auxiliary request, defining that the inclination of the article-supporting surfaces in said inclined position is variable and its actual magnitude is determined by the control units from the conveying speeds of the conveyor means.
- 5.4 Since, as pointed out by appellants 01 and 02, no effect concerning distinguishing feature a) is disclosed in the patent in suit and since no evidence has been provided making credible that due to an effect associated with feature a) the sorter according to claim 1 is more reliable and less impaired in case of failure, the Board finds the opinion of appellants 01 and 02 more convincing according to which, starting from the sorter of D7, based on distinguishing feature a) the **problem** underlying claim 1 can be seen in **providing the known sorter with a control system, which is based on a different control concept.**

5.5 It is undisputed that considering the **fundamental level in which the control means are defined by feature a) of claim 1**, which encompasses the provision of a plurality of control units and the, separate, arrangement of each one of these control units on an associated conveyor means, **three control concepts exist**, namely a **first control concept underlying the control according to feature a)** of claim 1 (plurality of control units, each one arranged on a particular conveyor means), **a second control concept underlying the control according to D7** (remote control with a central control unit) and a **third control concept** resulting from a **combination of the first and second control concepts**.

5.6 It is undisputed that all three of the above mentioned control concepts are known from general technical knowledge and are thus at the disposition of the person skilled in the art and furthermore, that, depending on circumstances, each one of these control concepts can be provided to control a sorter of the kind concerned, such that the effects according to features b) and c) are obtained.

5.7 For this reason the Board finds the argument of the patent proprietor, according to which the person skilled in the art starting from D7 would not consider a shift from the control concept relied upon in this document, as not convincing. The Board finds in this respect the opinion of appellants 01 and 02 as being more convincing, according to which the person skilled in the art is, starting from D7, not bound to stick to the control concept disclosed in D7, but free to select

a different one of the three well known control concepts depending on circumstances as an alternative.

- 5.8 It is thus obvious that the person skilled in the art will, in search for an alternative control concept for the one referred in D7, consider the two other possible control concepts referred to above.

Consequently the sorter according to claim 1 does not involve an inventive step in the sense of Article 56 EPC in view of the sorter known from D7, since the person skilled in the art will, in an attempt to control the known sorter on the basis of an alternative control concept, consider the well known possibilities for control concepts.

- 5.9 The above holds true even more considering the fact that within D7 remote control is only referred to in general terms (column 3, lines 39 - 43) leaving it open for the person skilled in the art to devise an appropriate remote control relying on the general technical knowledge at its disposition. No convincing reason is given why, in doing so, the person skilled in the art cannot be considered as exploring additionally the two other equally well known control concepts referred to above.

- 5.9.1 In this respect the argument of the patent proprietor, that the person skilled in the art, starting from the sorter according to D7, would not have contemplated a change of the control concept underlying to D7, cannot be considered as being convincing.

In view of the Board it is natural for a person skilled in the art to investigate alternative solutions, in the present case concerning the control concept to be used in a sorter, and to thereby weigh the advantages and the disadvantages of each one of the alternative control concepts against the advantages and disadvantages of the other ones.

Thus depending on circumstances the person skilled in the art will find it appropriate to change from one well known control concept to another other equally well known one. Such a decision, effecting in the present case the control concept underlying the sorter according D7 to be replaced by a different, well known control concept, is in the present case obvious since the control concepts concerned are interchangeable without essential modifications of the structure of the controlled device being required, and since the effect obtained by the control remains basically the same.

In this respect facts to the contrary have neither been alleged nor proven.

First auxiliary request

6. Admissibility

The Board exercised its discretion (Article 13(1) RPBA) to admit this set of claims into the proceedings taking into account that prima facie with the amendments to claim 1 according to the first auxiliary request it is attempted to further define the control units by means of features relating to the manner in which the control units function and further that neither the Board nor

appellants 01 and 02 can be considered as having been taken by surprise by these amendments, since said amended claims were filed with fax on 30 May 2008, i.e. almost three weeks before the date of the oral proceedings and sent simultaneously to appellants 01 and 02. The amendments do not constitute a major change in comparison to the request filed earlier.

6.1 Clarity

Claim 1 has been amended adding the feature of claim 12 as granted

- (i) and wherein the inclination of the article-supporting surfaces in said inclined position is variable and its actual magnitude is determined by the control units from the **conveying speeds of the conveyor means**

and the features taken from the description (column 10, lines 10 - 16)

- (ii) wherein the angle of tilting is adapted in dependence of **the conveying speed of the sorter** and/or the curvature so that counteracting of centrifugal forces is of such a degree that articles are prevented from sliding off the article-supporting parts.

Since features ii) are taken from the description it needs to be examined whether the resulting amendment of claim 1 fulfils the requirements of the EPC.

Appellants 01 and 02 raised various objections with respect to lack of clarity of features ii). The Board finds that at least the one concerning the alternative of feature ii) comprising the **expression "the conveying speed of the sorter"** holds true.

Although following the argument of the patent proprietor according to which a literal interpretation of this expression is not justified, since the person skilled in the art understands that the expression does not concern a conveying speed of the sorter in its totality, which i.a. comprises a stationary track having no conveying speed at all, the Board is of the opinion that by this expression it is not clearly defined which speed(s) of the "sorter" is/are referred to. Consequently the expression concerned fails to clearly define which conveying speed is to be considered in adapting the angle of tilt.

Claim 1 according to the first auxiliary request is thus not allowable since it is unclear (Article 84 EPC).

Second auxiliary request

7. Claim 1 according to the second auxiliary request differs from claim 1 according to the main request in that the following features have been added

- (i) and wherein a plurality of tilting mechanisms, preferably each tilting mechanism comprises a logical unit and wherein

- (ii) the degree of tilt during passage of horizontal curves is calculated or otherwise determined by means of the logical unit and wherein

- (iii) the angle of tilting is adapted in dependence of the **conveying speed of the sorter** and/or the curvature so that counteracting of centrifugal forces is of such a degree that articles are prevented from sliding off the article-supporting parts.

7.2 Clarity

Claim 1 according to the second auxiliary request comprises as feature iii) feature ii) of claim 1 according to the first auxiliary request, which, as indicated above (cf. section 6.1) leads due to the expression "conveying speed of the sorter" to an unclear alternative within features iii) (Article 84 EPC).

Thus for the reason indicated above this claim 1 cannot be considered as satisfying the requirements of the EPC.

For completeness sake it shall be indicated that claim 1 according to the second auxiliary request is unclear also for the following additional reason.

Claim 1 concerned comprises features defining control units, adapted to move the tilting parts to an inclined position and in addition features defining a logical unit comprised by a plurality of tilting mechanisms,

preferably each of the tilting mechanisms. Since as defined in claim 1 by this logical unit the degree of tilt during passage of horizontal curves is calculated or otherwise determined, the logical unit has essentially the same function or purpose as the control units likewise defined in claim 1.

Due to the lack of any definition in claim 1 (and correspondingly lack of any disclosure in the patent in suit; cf. column 11, lines 12 - 47) as to the difference or the likeness of the control units and each logical unit, it remains obscure to what extent by the two differing expressions it is referred to the same entity or to different ones.

Order

For these reasons it is decided that:

1. The appeal of the patent proprietor is dismissed.
2. The decision under appeal is set aside.
3. The patent is revoked.

The Registrar:

The Chairman:

G. Nachtigall

K. Poalas