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D E C I S I O N
of 17 September 1999

Case Number: T 0443/97 - 3.2.4

Application Number: 90109023.3

Publication Number: 0398214

IPC: B65H 1/18

Language of the proceedings: EN

Title of invention:
Paper feeding/piling apparatus for sheet fed press

Patentee:
Komori Corporation

Opponent:
Heidelberger Druckmaschinen AG

Headword:
Paper feeder/KOMORI

Relevant legal provisions:
EPC Art. 56
EPC R. 86(4)

Keyword:
"Inventive step (yes)"

Decisions cited:
G 0001/91, T 0570/91, T 0439/92

Catchword:
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Case Number: T 0443/97 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 17 September 1999

Appellant: (Opponent)
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 27 March 1997 concerning maintenance of European patent No. 0 398 214 in amended form.

Composition of the Board:

Chairman: C. A. J. Andries
Members: P. Petti
C. Holtz

Summary of Facts and Submissions

I. An opposition was filed against the European patent No. 398 214.

II. By the decision of the opposition division dispatched on 27 March 1997 the patent was maintained in an amended version based upon the independent Claim 1 according to the second subsidiary request submitted by the proprietor during oral proceedings of 5 March 1997. This independent claim, which will be referred to hereinafter as the present Claim 1, is worded as follows:

"1. A paper feeding/piling apparatus for a sheet fed press, including:

- a pile table (9) supporting a pile board (10) provided with grooves (10a) and having a pile (11B) of sheets (11) thereon, said pile table being automatically moved upward in accordance with a decrease in number of sheets (11);
- a lifting unit (24-50) comprising a plurality of parallel lifting fingers fitting in or removed from said grooves (10a) of said pile board (10) upon reciprocal horizontal movement of said lifting fingers for vertically lifting a remainder of the pile (11B) from said pile board (10) by a drive unit (28, 34, 39) enabling a replenishment of said pile wherein each lifting finger is connected with one end thereof to a support table (40) reciprocated back and forth and supported between a pair of vertically movable right and left guide rails (25), said support table (40) and said lifting

fingers forming a fork reciprocating unit having forward and backward limit positions detected by detecting means (68, 69, 70); and

- an auxiliary pile unit (13) for piling next sheets (11A) on a next pile board (10A) during paper feeding;

characterized in that

- each lifting finger comprises a rod (51);
- said lifting unit (24-50) includes detecting means (34a, 34b) for regulating an upper retracted storage position allowing maintenance personnel to perform maintenance or inspection operations below the guide rails (25) and a lower limit operation position of said guide rails (25); and
- said lifting unit (24-50) with its support table (40), drive unit (28, 34, 39) and guide rails (25) is positioned at the rear of said pile table (9)."

The opposition division found that the subject-matter of the independent claims upon which the proprietor had based its main and first subsidiary requests did not involve an inventive step having regard *inter alia* to documents FR-A-2 572 062 (D2) and DE-A-3 535 113 (D3) but that the subject-matter of the independent Claim 1 according to the present Claim 1 did involve an inventive step.

III. On 19 April 1997 the appellant (opponent) lodged an appeal against this decision and simultaneously paid the appeal fee. A statement setting out the grounds of appeal was received on 22 July 1997.

IV. Oral proceedings were held on 17 September 1999.

V. In the course of the appeal proceedings the appellant based its arguments upon documents D2, D3 and DE-B-2 637 086 (D4) as well as upon document DD-A-58 744 (D5) which was submitted for the first time during the oral proceedings.

With respect to the amendments, the appellant - during the oral proceedings - referred to Rule 86(4) EPC and argued that the present Claim 1 related to unsearched subject-matter.

With respect to inventive step, the appellant - during the oral proceedings - essentially argued that the subject-matter of the present Claim 1 did not involve an inventive step having regard to documents D2 to D4.

During the written phase of the appeal proceedings, the appellant had essentially argued that the skilled person - when starting from the subject-matter of Claim 1 according to the first subsidiary request submitted by the respondent during the previous opposition proceedings, which request was refused by the opposition division because of lack of inventive step - would have arrived in an obvious way at the subject-matter of the present Claim 1.

VI. The respondent (proprietor) contested the arguments of the appellant.

VII. The appellant requested that the decision under appeal be set aside and that the patent be revoked, auxiliarily that the case be remitted to the first

instance for further prosecution.

The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

2. *The claimed subject-matter and the amendments*

2.1 Claim 1 relates to a "paper feeding/piling apparatus", i.e. to a sheet feeder which is suitable for feeding piled sheets to a press and is associated with a pile table and with an auxiliary pile unit (see the first and the third features of the pre-characterising portion of the claim). Although Claim 1 does not explicitly specify the relationship of the auxiliary pile unit to the sheet feeder it has to be assumed that the auxiliary pile unit is functionally linked to the sheet feeder in so far as a "next pile board" filled with sheets can be conveyed from the auxiliary pile unit to a paper feed position below the pile table (see description of the patent, column 4, line 37 to column 5, line 10).

The pre-characterising portion of Claim 1 refers to "detecting means (68, 69, 70)" while the characterising portion refers to "detecting means (34a, 34b)”. It is clear from the wording of the claim that the detecting means referred to in the pre-characterising portion are suitable for detecting forward and backward positions of the fork reciprocating unit, i.e. they are linked to the reciprocated (horizontal) movement of the support

table (40) relative to the guide rails (25). The detecting means referred to in the characterising portion of Claim 1 of the patent as granted as "detecting means (34a, 34b) for regulating upper and lower limit position of said guide rails (25)" are linked to the vertical movement of the guide rails (25). These detecting means are suitable for detecting the upper and the lower limit position of the guide rails and for "regulating", i.e. controlling the vertical movement of the guide rails so as to stop them either in the upper or in the lower limit position (see description of the patent, column 6, lines 25 to 33).

The expression "at the rear" in the feature that "said lifting unit is positioned at the rear of said pile table" relates to the feeding direction. In other words, this feature means not only that the lifting unit is positioned outside the pile table but also that the pile table is positioned between the lifting unit and the sheet-fed press.

2.2 The amendments to the patent as granted only concern the present Claim 1 which differs from Claim 1 as granted in that (see particularly the parts in bold print)

(a) the feature that "said lifting unit (24-50) includes detecting means (34a, 34b) for regulating **an** upper **retracted storage** position **allowing maintenance personnel to perform maintenance or inspection operations below the guide rails (25)** and **a** lower limit **operation** position of said guide rails (25)" has replaced the feature according to which "said lifting unit (24-50) includes

detecting means (34a, 34b) for regulating upper and lower limit positions of said guide rails (25)"; and

(b) the feature that "said lifting unit (24-50) **with its support table (40), drive unit (28, 34, 39) and guide rails (25)** is positioned at the rear of said pile table (9)" has replaced the feature according to which "said lifting unit (24-50) is positioned at the rear of said pile table (9)".

Feature (a) can be derived from the description of the application as filed (see page 9, lines 18 to 24; page 20, lines 15 to 21). Feature (b), which can be clearly derived from the drawings (see Figure 1), was also contained in the preamble of Claim 1 of the patent as granted in so far as it refers to a lifting unit comprising *inter alia* a support table, a drive unit and guide rails.

Moreover, these amendments further specify features which were already contained in Claim 1 of the patent as granted.

Therefore, the amendments do not contravene Article 123 EPC.

2.3 The appellant argued that the amended claim related to unsearched subject-matter which did not combine with the originally claimed invention and contravened Rule 86(4) EPC. In this respect the appellant requested that the case be remitted to the first instance for further prosecution (see sections V and VII above).

The board cannot accept this argument of the appellant for the following reasons:

(1) The amendments represent a further specification of features already present not only in Claim 1 of the patent as granted but also in the claims of the application as filed. Claim 2 of the application as filed defined structurally the upper and the lower limit positions of the guide rails. In the present Claim 1 these limit positions are defined more precisely with respect to the functions performed by the lifting unit and to the results obtainable when the lifting unit is in its upper position.

The subject-matter corresponding to the amendments, even if it was not expressly defined in any dependent claim of the application as filed, can be clearly derivable from the description and the drawings of the application as filed (see section 2.2 above). It has to be assumed that the search was directed to the invention defined by the claims, **as interpreted with due regard to the description and drawings** (see "*Guidelines for Examination in the European Patent Office*", B-III-3.1).

It has also to be noted that according to the "*Guidelines*...", B-III-3.6, "... the search should cover the entire subject-matter to which the claims are directed or to which they might reasonably be expected to be directed after they have been amended".

It has also to be considered that in the specific case the subject-matter of the amended Claim 1 does not require a search be carried out on the basis of search files other than the search files on the basis of which the search for the claims of the application as filed should have been based. In other words, documents relating to the amendments - if existing - could and would have been found during the search.

Having regard to these comments, it cannot be assumed that the amended Claim 1 relates to unsearched subject-matter.

(2) According to Rule 86(4) EPC, which was inserted into the Implementing Regulations to the EPC by a decision of the Administrative Council of the European Patent Organisation which entered into force on 1 June 1995, "amended claims may not relate to unsearched subject-matter which does not combine with the originally claimed invention ... **to form a single general inventive concept**" (emphasis added). Thus, it is clear that Rule 86(4) EPC relates to issues concerning lack of unity of invention. This can also be derived from the explanations of the new text of Rule 86(4) EPC contained in the "*Notice dated 1 June 1995 concerning amendment of the European Patent Convention, the Implementing Regulations and the Rules relating to Fees*" (OJ EPO 1995, 409). It is clear from these explanations that Rule 86(4) EPC concerns examination proceedings, and particularly those cases in which no further search fees requested by the search division for

non-unitary subject-matter have been paid by the applicant. The purpose of Rule 86(4) EPC is to rule out any amendment which circumvents the principle according to which a search fee must always be paid for an invention presented for examination (see particularly the paragraph heading "Switching to unsearched subject-matter", pages 420 and 421, sections 1 and 3). It is also to be considered that unity of invention is a requirement of administrative nature and that the administrative purposes of this requirement are fulfilled when the examination proceedings has been concluded, i.e. when the patent has been granted (see G 1/91, OJ EPO 1992, 253, section 4.2). Therefore, Rule 86(4) EPC is not relevant for the present case.

2.3.1 Having regard to the above comments the request of the appellant for remittal of the case to the first instance is refused.

3. *The prior art*

3.1 Document D2 discloses a paper feeding/piling apparatus for a sheet-fed press including:

- a pile table ("porte-piles B") supporting a pile board ("palette 58") provided with grooves (spaces 61; see Figure 23) and having a pile of sheets thereon, said pile table being automatically moved upwards in accordance with a decrease in number of sheets (see page 2, lines 27 to 30);

- a lifting unit ("châssis 1") comprising a

plurality of parallel lifting fingers ("profilés creux 13") fitting in or removed from said grooves of said pile board upon reciprocal movement of said lifting fingers for vertically lifting a remainder of the pile from said pile board (see Figures 39 to 41) by a drive unit (chains 3, pinions 4 and motor 8) enabling a replenishment of said pile, wherein each lifting finger is connected with one end thereof to a support table (e.g. "double traverse 14") reciprocated back and forth and supported between a pair of vertically movable right and left guide rails ("longerons 10"), said support table and said lifting fingers form a fork reciprocating unit having forward and backward limit positions detected by first detecting means (contacts 39 and 41, see page 5, lines 18 and 19);

- an auxiliary pile unit for piling next sheets on a next pile board during paper feeding (see Figure 30);

wherein

- each lifting finger comprises a profile (13);

- said lifting unit (1) includes second detecting means ("programmateur" 42, "diodes" 50.1 and 50.5; see page 6, lines 21 to 37) for regulating upper and lower limit positions of said guide rails;

- said lifting unit with its support table, drive unit and guide rails is positioned in the same spatial area as the pile table.

3.2 Document D4 concerns a sheet feeder ("Bogenanleger") including a pile table ("Stapeltisch 4") provided with grooves ("Nuten 9") and having a pile (7) of sheets thereon, said pile table being automatically moved upwards in accordance with a decrease in number of sheets;

- a lifting unit (3) comprising a plurality of parallel lifting fingers fitting in or removed from said grooves of said pile table upon reciprocal movement of said lifting fingers for vertically lifting a remainder of the pile from said pile table enabling a replenishment of said pile wherein each lifting finger comprises a rod ("Tragstab 8").

3.3 Document D3 relates to a paper piling apparatus receiving sheets from a sheet-fed press ("Bogenableger") including a transporting table (3) comprising conveyor belts (8) for transporting the sheets from an overlapping station (2) to a pile table 5 supporting a pile board (6), said pile table being automatically moved downward in accordance with an increase in number of sheets; and a supporting unit comprising a plurality of parallel supporting fingers (19), the fingers being supported by a carriage (21), the carriage and the fingers forming a reciprocating unit supported by guide rails (22) which are vertically movable by means of drive means (28, 29 and 30), the reciprocating unit being suitable for supporting the sheets transported by the conveyor belts when a pile board completely filled with sheets is removed from the pile table (5); wherein the supporting unit with its carriage, drive means and guide rails is positioned

between the overlapping station (2) and the pile table (5) upstream of the pile table (5).

3.4 Document D5 concerns a paper piling apparatus receiving sheets from a sheet-fed press ("Bogenableger") including a preliminary pile table ("Vorstapeltisch 1") and an intermediate pile table ("Zwischenstapeltisch 4") associated with a lifting unit ("Hubtisch 2"), wherein the lifting unit (2) is suitable for taking over a part of a pile of sheets from the preliminary pile table (1) and bringing it onto a main pile of sheets ("Endstapel 11"). The lifting unit (2) is vertically movable between a lower operation position, in which the part of the pile is taken over from the preliminary pile table, and an upper operation position, in which the part of the pile is joint to the main pile.

4. *Novelty*

The subject-matter of Claim 1 is novel. Novelty was not disputed.

5. *Closest prior art*

The closest prior art is disclosed in document D2.

Document D3 is less relevant then document D2. Moreover, since this document does not concern a device for feeding sheets to a sheet-fed press but a device for piling sheets coming from a sheet-fed press, it would not represent a realistic starting point from which the skilled man would try to arrive at the claimed subject-matter (see e.g. T 570/91 and T 439/92,

cited in "*Case Law of the Boards of Appeal of the European Patent Office*", 3rd edition 1999, I-D-3.2).

6. *Problem and solution*

6.1 The lifting unit (1) of the sheet feeder according to the closest prior art operates as a main supporting table, i.e. as follows:

After the first pile board filled with sheets is positioned on the pile table (B) and before the starting of the feeder, the supporting fingers (13) of the lifting unit (1) fit in the grooves of the pile board and take over the pile (see Figures 33 and 34). Then, the lifting unit supporting the pile is lifted at a level at which the upper sheet of the pile can be fed to the press so that the feeder can be started (see Figure 35). When the remainder of the pile has to be joint together with a new pile, the next pile board is positioned under the lifting unit (see Figure 36) and is lifted until the upper sheet of the new pile is brought into contact with the fingers, whereafter the fingers are removed so that the remainder of the first pile and the new pile are joined together (see Figure 38). While the pile is now being supported by the pile table (which operates as an auxiliary supporting table), the lifting unit moves downwards to the base of the pile, so that the fingers fit in the grooves of the pile board and take over the pile (see Figures 39 and 40).

In other words, the lifting unit moves cyclically in the vertical direction without having any parking position during paper feeding. It is clear from

document D2 that the support table comprising the fingers is dismantled in order to allow maintenance (see page 4, lines 31 to 35).

6.2 The subject-matter of the present Claim 1 differs from the closest prior art in that

(a) each lifting finger comprises a **rod**;

(b) the upper limit position of said guide rails is **a retracted storage position allowing maintenance personnel to perform maintenance or inspection operations below the guide rails**;

(c) the lifting unit with its support table, drive unit and guide rails is positioned **at the rear of the pile table**.

6.3 Thus, the claimed invention is based on the idea of moving the lifting unit to a storage position, i.e. to a **parking** position, which corresponds to the upper limit position of the guide rails.

When the lifting unit is in its parking position, maintenance or inspection operations can be performed as defined by feature (b) above. The measure that the lifting unit with the support table, the drive unit and the guide rails is positioned at the rear of the pile table (i.e. outside of the pile table) as defined by feature (c) above, allows the guide rails of the lifting unit to be moved upwards to a level higher than the level corresponding to the operation position. This means that features (b) and (c) are not independent of

each other.

6.4 Having regard to the comments above, the technical problem to be solved relates to the improvement of the accessibility of the apparatus for maintenance or inspection purposes without reducing its operability.

7. *Inventive step*

7.1 It has to be considered that document D2 neither contains an indication to the problem of the accessibility of the apparatus for maintenance purposes during paper feeding nor - as already indicated above - suggests the idea of demounting the support table to perform maintenance operations. In other words, document D2 leads away from the claimed solution.

7.2 With respect to feature (a), the appellant argued that this feature cannot involve an inventive step not only because rods and profiles have to be considered as equivalent with regard to the function they perform but also because document D4 clearly suggests the use of rods as supporting fingers of a lifting unit associated with a sheets feeder. With respect to feature (c), the appellant argued that document D3 suggests the idea of positioning the lifting unit with its support table, drive unit and guide rails at the rear of the pile table. As to feature (b), the appellant argued that this feature represents the choice between a limited number of possibilities. The skilled person, wishing to improve the apparatus according to document D2 with respect to maintenance purposes, can either remove the supporting table from the apparatus or move it downwards to a lower storage position or to move it

upwards to an upper storage position. Therefore, according to the appellant it would be obvious for a skilled person to arrive at the claimed solution.

7.2.1 The board cannot accept the arguments the appellant put forward with respect to features (b) and (c) for the following reasons:

Document D3 does not contain any indication to the problem of improving the accessibility of the apparatus when the sheets are transported to the piling device. Therefore, the skilled person will not be incited to combine documents D3 and D2.

It is also to be considered that document D3 concerns a sheet piling apparatus (see section 3.3 above) and not a sheet feeder. Therefore, the skilled person reading this document has to realize that a teaching concerning a piling apparatus can be applied to a sheet feeder.

Furthermore, in the apparatus according to document D3 the upward movement of the supporting unit comprising the supporting fingers (1) is limited by the transporting table (see Figure 2). The upper limit position of the supporting unit is the position in which the first sheet is supported by the supporting fingers. In this position the supporting unit is operative. Thus, document D3 not only contains no indication to an upper parking (or storage) position of the supporting unit but also discloses an apparatus provided with features which are incompatible with an upper parking position of the supporting unit.

It is also to be noted that the transporting table of

the apparatus according to document D3 has a structural and functional relationship to the supporting unit provided with the supporting fingers and to the pile table. When the skilled person analyses this document, he will consider it as defining a whole technical entity without isolating single features which are essential for the operation of this entity from their technical context. In other words, the skilled person - without making an *ex post facto* analysis of document D3 - would not structurally isolate the pile table and the supporting unit of the apparatus according to document D3 from the transporting table.

Having regard to the above observations, the skilled person, if he were to combine the teaching of document D3 with the closest prior art, could arrive at a sheet feeder in which the lifting unit is positioned outside of the pile table, as defined by feature (c) but would not arrive at a sheet feeder in which the lifting unit has an upper storage position as defined by feature (b).

7.3 The appellant's arguments relying on document D5 are not relevant. Having regard to the comments in section 3.4 above, this document is not more relevant than document D3. In these respects, it has to be considered that the lifting unit (2) has no parking position, its upper position as well as its lower position being operation positions (see column 4, lines 6 to 8). The apparatus according to this document is provided with a preliminary pile table (1) and with an intermediate pile table (4) which perform, respectively, the same functions as the pile table (5) and the supporting unit provided with fingers (19) of

the apparatus according to document D3, while the lifting unit (2) performs the function of transporting a remainder of the pile from the preliminary pile table to a main pile (11).

7.4 The appellant's argument that the differences between the subject-matter of the present Claim 1 and that of the first auxiliary request submitted by the respondent in the course of the previous opposition proceedings do not justify an inventive step is irrelevant. This way of arguing is based upon an incorrect approach for assessing inventive step because the starting point does not correspond to the content of a prior art document but to the content of a claim upon which the respondent had based one of its requests during the previous opposition proceedings.

7.5 Having regard to the observations above, the skilled person would not arrive in an obvious way at the solution according to the present Claim 1.

8. The patent can therefore be maintained on the basis of the version accepted by the opposition division in its interlocutory decision.

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar: The Chairman:

N. Maslin C. Andries