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**Datasheet for the decision  
of 17 December 2012**

**Case Number:** T 1575/09 - 3.2.07  
**Application Number:** 98119184.4  
**Publication Number:** 927768  
**IPC:** C14B 1/56, C14C 11/00  
**Language of the proceedings:** EN

**Title of invention:**

Engraved cylinder for fitting to machines for rolled finishing of hides, artificial hides, fabric, synthetic materials and the like

**Patentee:**

GE.MA.TA. S.p.A.

**Opponent:**

BERGI SpA

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 54, 56

**Keyword:**

"Admissibility of the appeal - yes (point 2); admissibility of new documents filed with the appeal - yes (point 4)"

"Consideration of the acknowledged prior art in the patent - yes (point 8.3) - reasons for combined consideration of the closest and further prior art - yes (points 8.4 and 8.6)"

"Inventive step concerning apparatus and use claim - no"

**Decisions cited:**

T 0878/06

**Catchword:**

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Case Number: T 1575/09 - 3.2.07

**DECISION**  
of the Technical Board of Appeal 3.2.07  
of 17 December 2012

**Appellant:** BERGI SpA  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 18 May 2009  
rejecting the opposition filed against European  
patent No. 927768 pursuant to Article 101(2)  
EPC.

**Composition of the Board:**

**Chairman:** H. Meinders  
**Members:** H.-P. Felgenhauer  
E. Kossonakou  
K. Poalas  
I. Beckedorf

## Summary of Facts and Submissions

I. The opponent (appellant) has filed an appeal against the decision of the opposition division rejecting the opposition against European patent No. 0 927 768.

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

The respondent (patent proprietor) requested that the appeal be dismissed (main request), alternatively that the patent be maintained according to the auxiliary requests 1 to 4 submitted with its letter dated 24 September 2012.

II. Claims

Claim 1 as granted (main request) reads as follows:

"Engraved cylinder for fitting to machines for the rolled finishing of hides, artificial hides, fabric, synthetic materials and the like, of the type having an external engraved surface in such a manner as to form openings or grooves in a continuous helical pattern, characterized in that in the surface of said cylinder there are provided one or more continuous helical patterns of grooves that are reciprocally separated from each other and in that the angle of the helix slope of the said grooves in relation to the axis of the body of the cylinder is comprised between values of 50° and 89°, the said angle being determined by means of the formula:

$$\alpha = \arctan (D \times \pi / Pe)$$

wherein:

$P_e = p \times z =$  the helix pitch, matching the space by which one point of the helix advances, parallel with the axis of the cylinder, during the course of one full rotation where

$p =$  distance between two contiguous grooves of the helix

$z =$  number of helixes contained in one helix pitch

$D =$  cylinder external diameter

$D \times \pi =$  external circumference of the cylinder.

Claim 1 according to auxiliary request 1 is amended in that it is now for an "Engraved cylinder for fitting to machines for the rolled finishing of hides", i.e. the other products treated by the machines for which the cylinder is intended are deleted. Further the "characterized in that" has been replaced by "wherein". The rest of the claim remains the same.

Claim 1 according to auxiliary request 2 is amended over claim 1 of the auxiliary request 1 (emphasis added by the Board) and is now for an "Engraved cylinder **fitted to a machine** for the rolled finishing of hides **for applying a liquid product to said hides, the engraved cylinder** having an external engraved surface ...". The rest remains the same.

Claim 1 according to auxiliary request 3 reads in its main part as follows (emphasis added by the Board):

"Engraved cylinder **fitted to a machine** for the rolled finishing of hides, **the machine comprising a lower roll or conveyor mat for carrying said hides and pressing**

**said hides again said engraved cylinder, wherein the engraved cylinder is configured to apply a liquid impregnation product, previously distributed over the surface of the engraved cylinder by means of one or several scrapers, to the surface of said hides,** the engraved cylinder having an external engraved surface ...", the rest remaining the same as claim 1 as granted.

The main part of claim 1 according to auxiliary request 4 reads as follows (emphasis added by the Board):

**"Use of an engraved cylinder fitted to a machine for the rolled finishing of hides for applying a liquid product to said hides,** the engraved cylinder having an external engraved surface ..." the rest remaining as claim 1 as granted.

III. The following documents are referred to

of the opposition proceedings:

D1 DE-A-39 27 365.

Filed in the appeal proceedings:

D27 US-A-5 620 514

D27a "Knurl Roll Design for Stable Rotogravure Coating" W.W. Pulkrabek and J.D. Munter, pages 1309, 1310

IV. Impugned decision

According to the impugned decision the alleged public prior uses have to be disregarded as not sufficiently proven.

The engraved cylinder according to claim 1 has been considered novel over D1 and as involving inventive step in view of this document.

The technical problem underlying the subject-matter of claim 1 has been considered as providing an engraved cylinder which facilitates the feeding of articles into the treatment nip in the machine, for the rolled finishing thereof (reasons, point 5.2).

V. The arguments of the appellant can be summarized as follows:

- (a) The appeal is admissible since from the statement of grounds of appeal it can clearly be derived why the decision under appeal is considered to be incorrect.
- (b) Document D27 should be admitted due to its relevance concerning the subject-matters of the claims 1 according to all requests. D27a referred to in D27 should likewise be admitted since it not only adds to the disclosure of D27 but furthermore brings it into proper perspective.
- (c) The subject-matters of the claims 1 according to the main request and auxiliary request 1 lack novelty with respect to the engraved cylinder

according to D27, since all features of these claims are directly and unambiguously derivable therefrom.

- (d) The subject-matter of claim 1 according to auxiliary request 2 does not involve an inventive step considering as closest prior art the standard finishing machine referred to in the description of the patent in suit in combination with the teaching of document D27. The invention is nothing more than the application of a known cylinder to a known machine.
- (e) This applies likewise with respect to the subject-matter of claim 1 according to auxiliary request 3 since this claim does not comprise a further distinguishing feature when compared to claim 1 according to auxiliary request 2.
- (f) Claim 1 according to auxiliary request 4 does not involve an inventive step for the same reason as given for claim 1 of auxiliary request 2 and since the use of a machine in the manner it is intended and known for cannot contribute to inventive step.

VI. The arguments of the respondent can be summarized as follows:

- (a) The appeal is not admissible since the notice of appeal as well as the statement of grounds of appeal do not relate to the reasons of the decision under appeal. They are solely based on new documents. Thus the grounds of appeal set up a

new case, entirely different from the one underlying the impugned decision.

- (b) Document D27 should not be admitted since it has been late filed and since it is not highly relevant. This fact is readily apparent considering that this document belongs to the technical field of coating a flexible backing web with a magnetizable layer, which is different from the technical field of the patent in suit. Without D27 there is also no reason to consider D27a, referred to in D27, by itself.
- (c) In case D27 and D27a are admitted it needs to be taken into account that the subject-matters of the claims 1 according to the main request and auxiliary request 1 are novel over the engraved cylinder according to D27. One should consider that the teaching of D27 is a very specific one: a magnetizable coating comprising a binder is applied to a substrate in the form of a continuous flexible backing web. The engraved cylinder is designed with the aim to avoid that the magnetizable layer applied to the web forms a ribbing pattern thereupon. It is apparent that due to the structural differences concerning the machines to which the claimed engraved cylinders are to be fitted as well as the engraved cylinder as such, the one according to D27 does not comprise all features of the cylinder according to the claims 1 of the main request and of auxiliary request 1. Concerning the understanding of the subject-matter of these claims it also has to be borne in mind that the finishing referred to



therein, which for example can be an impregnation, differs greatly from the application of a magnetizable coating as referred to in D27.

- (d) The subject-matter of claim 1 according to auxiliary request 2 involves an inventive step in view of the standard finishing machine referred to in the patent in suit as the closest prior art and the engraved cylinder according to D27. In this respect it needs to be considered that the problem solved by the subject-matter of claim 1 is to facilitate the feeding of the hide and to enable a regular distribution of the fluid product over the hide, whereas the machine according to D27 with its engraved cylinder solves an entirely different problem, namely how to increase the speed of the web to be coated while maintaining a stable pickout not leading to a ribbing effect, which would lead to an irregular distribution of the coating.
- (e) The above applies even more concerning the subject-matters of the claims 1 according to auxiliary requests 3 and 4. Concerning the subject-matter of claim 1 of auxiliary request 3 it needs to be taken into account that the machine to which the engraved cylinder is fitted is now defined in even more detail. Concerning the subject-matter of claim 1 of auxiliary request 4 it needs to be taken into account that no indication is available to use the engraved cylinder according to document D27 in the rolled finishing of hides.

- VII. In the annex to the summons to oral proceedings the Board gave its preliminary opinion in particular with respect to the understanding of claim 1 and the admissibility of document D27, taking account of the disclosure of this document and of document D27a.
- VIII. Oral proceedings before the Board were held on 17 December 2012.

### **The Reasons for the Decision**

1. *Admissibility of the appeal*

As referred to by the Board during the oral proceedings, in the statement of grounds of appeal the reasons for setting aside the impugned decision and the facts and evidence on which the appeal is based are indicated. The legal and factual reasons given enable, contrary to the allegations of the respondent (cf. point VI.(a) above), the Board to understand immediately why the impugned decision should be set aside without first having to make investigations on its own. Consequently the requirements of Rule 99(2) EPC are fulfilled.

The fact that the appeal is based entirely on new evidence (which remains, however, within the grounds given for the decision) does not affect this; that is here a question of admissibility of the evidence **as such** (see in this respect for instance T 0878/06, reasons point 2), which is treated below in point 4.

*Main request*

2. *Subject-matter of claim 1 according to the main request*

2.1 Claim 1 according to the main request is directed to an engraved cylinder.

2.1.1 The **intended use for this engraved cylinder** is defined by stating that the engraved cylinder is "for" fitting to machines "for" the rolled finishing of hides, artificial hides, fabric, synthetic materials and the like.

2.1.2 The **structure of the engraved cylinder** is defined by stating that it is of the type having an external engraved surface in such a manner as to form openings or grooves in a continuous helical pattern, wherein in the surface of said cylinder there are provided one or more continuous helical patterns of grooves that are reciprocally separated from each other.

Furthermore the angle of the helix slope of said grooves in relation to the axis of the body of the cylinder is defined as being comprised between values of 50° and 89°.

The helix angle is further determined by means of the formula:

$$\alpha = \text{arc tan } (D \times \pi / P_e)$$

wherein:

$P_e = p \times z =$  the helix pitch, matching the space by which one point of the helix advances, parallel with the axis of the cylinder, during the course of one full rotation

where

$p =$  distance between two contiguous grooves of the helix

$z =$  number of helixes contained in one helix pitch

$D =$  cylinder external diameter

$D \times \pi =$  external circumference of the cylinder.

2.1.3 It is common ground that the above formula merely expresses the - generally known - geometric relationship between the angle of the helix slope, the helix pitch and the circumference of the cylinder.

It is further common ground that the angle of helix slope referred to with respect to the prior art in the patent in suit (cf. paragraph [0014]) and in D27 as well as in D27a are defined such that the above formula applies.

In the following this formula thus needs no further consideration.

2.1.4 It is to be noted that, as indicated by the Board during the oral proceedings, other than the structural features of the cylinder referred to above (point 2.1.2) claim 1 does not comprise any structural feature relating to the intended use referred to in this claim (point 2.1.1).

2.2 As referred to by the respondent the intended use of the engraved cylinder can be under "reverse" working conditions as well as under "synchro" working conditions (cf. paragraphs [0018] and [0020] of the patent in suit).

2.3 Concerning the **effects of the feature that the engraved cylinder has an angle of the helix slope of the grooves being within the defined range of 50° and 89°** it has been argued by the respondent and accepted by the appellant that, in comparison to the known engraved cylinder with a helix slope angle of 45° (cf. patent in suit, paragraphs [0014], [0015]), the following advantages, also referred to in the patent in suit, are achieved.

Positive results concerning the behaviour of the fluid product to be spread may be obtained (cf. paragraph [0017]) and the tendency of the product to convey itself via the groove towards the end of the cylinder, thus causing its irregular distribution over the hides to be pigmented or coloured, is avoided (cf. paragraph [0015]).

In particular, when working under "reverse" conditions any such tendency of this product and any tendency to a knurling impression effect on the surface of the hides, artificial hides, fabric, synthetic materials and the like, are eliminated (cf. paragraph [0018]).

The insertion operation of the hide into the restricted zone is facilitated and the negative effect of the lateral accumulation of the product on the cylinder is reduced (cf. paragraph [0019]).

Under "synchro" working conditions the release of the product from the base of the groove pattern is facilitated and prevents the front border of the hide, which is the first to enter the restricted zone, from

sticking to the patterned roller such that folds or curling, which damage or make the processed hide completely useless (cf. paragraph [0020]), are avoided.

Furthermore, a high value of helix slope prevents air being entrained into the fluid mass of product to be distributed which, causing the absence of homogeneity of the product, is the cause of irregular distribution and consequently does not allow a smooth and mirror-like surface to be achieved (cf. paragraph [0021]).

Summarizing, according to the description the feature defining that the angle of the helix slope of the grooves is comprised between 50° and 89° has the effect that the manner in which the liquid product can be applied via the engraved roller and with it the quality of the rolled finishing treatment resulting therefrom is improved.

3. *Alleged public prior uses*

The alleged public prior uses referred to in the opposition as well as the appeal proceedings need not be considered in view of the result of the examination with respect to novelty and inventive step given in the following.

4. *Admissibility of document D27*

- 4.1 The respondent objected to document D27, and with it D27a referred to therein, being admitted (cf. point VI.(b) above) since they have been late filed and since they are not highly relevant. The respondent argued in this respect that D27 belongs to the technical field of

coating a flexible backing web with a magnetizable layer, which is entirely different from the technical field to which the patent in suit belongs. In its view the application of magnetizable layers requires a specific design both of the engraved cylinder and of the machine to which it is to be fitted. The cylinder according to D27 is designed with the objective to increase the speed of the web to be coated while a stable pickout not leading to a ribbing effect, causing an irregular distribution of the coating on the web, can be maintained.

The respondent further argued that the fact that D27 need not be considered in connection with the subject-matter of claim 1 is also apparent considering the difference in classification of the patent in suit and D27. The patent has been classified as belonging to C14B 1/56 and C14C 11/00 of the International Patent Classification as main and sub group, D27 on the contrary has been classified in group B05C 1/08.

- 4.2 The Board finds the arguments of the appellant, according to which D27 (and with it D27a) should be admitted due to their relevance, more convincing.

As can be derived from the disclosure of D27 as referred to in the following, this document discloses an engraved cylinder and a machine to which it is fitted, whose respective structural features are as defined in claim 1 according to the main request.

It is true that, as emphasized by the respondent, the use of the engraved cylinder and of the machine to which it is fitted according to D27 differs from the

ones referred to in claim 1 as will be discussed further on.

This does not lead, however, to the disclosure of D27 being such that it is excluded from a novelty comparison or that the skilled person would not have taken it into account.

The high and *prima facie* evident relevance of D27 becomes furthermore apparent from the results of the examinations with respect to novelty and to inventive step as given below.

The different classifications of the patent in suit and of D27 do not present an obstacle preventing D27 to be considered. One reason is, irrespective of the classification, the great similarity in the disclosures of these documents as indicated above, which both concern the application of a liquid to a substrate with a machine comprising an engraved cylinder. A further reason is that the different classifications at present merely reflect that different aspects have been brought into focus. For the patent in suit, which has been initially classified in C14B 1/56 and C14C 11/00 (groups concerning mechanical treatment of skins, hides, pelts and leather), the focus has been directed to the items to be treated (even though claim 1 as granted was not at all limited to these products). For D27 which has been classified as belonging to group B05C 1/08 (concerning apparatuses with rollers for applying liquids or other fluent material to surfaces) the focus has been directed to the means with which liquids are applied to material surfaces.



In fact, the search report drafted for the patent in suit mentions that the search has been extended to B05C. Finally, as an *obiter*, the Board wishes to point out that the patent in suit itself has for search purposes been also included in the documentation for B05C 1/08.

5. *Disclosure of D27*

5.1 D27 discloses with respect to the subject-matter of claim 1 of the main request a gravure roll (an engraved cylinder in the terminology of claim 1 of the patent in suit) for fitting to apparatuses for coating (machines, roller machines, dabbing machines or "roller-coaters" in the terminology of the patent in suit) (cf. claim 1, column 3, lines 13 - 29; figures 1 - 5: gravure roll).

5.2 Concerning the **structure of the engraved cylinder** D27 discloses that it is of the type having an external engraved surface in such a manner as to form openings or grooves in a continuous helical pattern, wherein in the surface of said cylinder there are provided one or more continuous helical patterns of grooves that are reciprocally separated from each other (column 5, lines 10 - 15).

For the angle of the helix slope of said grooves in relation to the axis of the body of the cylinder value ranges of  $60^\circ$  to  $80^\circ$  and of  $90^\circ$  to close to  $0^\circ$ , preferably from  $30^\circ$  to  $60^\circ$  are disclosed for forward (=synchronous) differential-speed gravure coating and reverse gravure coating, respectively (column 3, line 61 - column 4, line 17). Thus values for the angle of the helix slope are disclosed which, corresponding

to claim 1 of the patent in suit, are comprised between of 50° and 89°.

It has not been disputed that the angle of the helix slope referred to in D27 corresponds to the definition given by claim 1 of the patent in suit; consequently (as indicated above) the formula given in claim 1 of the patent in suit applies likewise with respect to the angle of the helix slope of D27.

- 5.3 Concerning the **use of the engraved cylinder and of the associated machine** (referred to as gravure coater) to which it is fitted D27 states that the invention disclosed therein primarily concerns a method and an apparatus for making magnetic recording media using gravure coating to apply magnetizable layers (column 1, lines 12 - 14) on the substrate.

In this connection it is further disclosed that a gravure coater is continuously supplied with a fluid dispersion of magnetizable particles and binder. This is picked up in the fine grooves of the gravure roll/the engraved cylinder which can be driven either clockwise or counterclockwise. When it is driven clockwise, it is scraped by a doctor blade so that substantially the only material left on the engraved cylinder is that contained in the grooves. When it is driven counterclockwise, the doctorblade is moved to a different location.

The substrate (flexible backing web) is forced into contact with the dispersion-bearing engraved cylinder by which the dispersion is transferred as a coating to the backing member (column 5, lines 10 - 36).

6. *Novelty of the engraved cylinder according to claim 1 (main request)*
- 6.1 A comparison of the features of claim 1 and the disclosure of D27 concerning the engraved cylinder and its use reveals the following.
  - 6.1.1 The structural features of claim 1 defining the engraved cylinder do not distinguish this cylinder over the one disclosed by D27 (cf. points 5.1 and 5.2 above).
  - 6.1.2 The intended use of the engraved cylinder referred to in claim 1: "for" fitting to machines "for" the rolled finishing of hides, artificial hides, fabric, synthetic materials and the like differs from the use disclosed by D27 (cf. point 5.3 above): utilization in an apparatus for making magnetic recording media using gravure coating to apply magnetizable layers to a web of synthetic material.
- 6.2 As explained before, the engraved cylinder according to claim 1 does not, in addition to the claim features which are known from D27 (cf. point 6.1 above), comprise a particular structural feature relating to the intended use of the engraved cylinder as referred to in this claim (cf. point 2.1.4 above). Moreover, no evidence has been given in support of the allegation of the respondent that the indicated intended use leads to the structural features comprised in claim 1 having a particular meaning. That the meaning of the structural features is not influenced by the intended use is also apparent from the fact that no specific rolled finishing is referred to and that beyond the value

range given for the angle of the helix slope the claimed engraved cylinder lacks any further definition with respect to the shape and the dimensions of the grooves.

Consequently the answer to the question of whether the engraved cylinder of claim 1 is novel over the one disclosed in D27 hinges on the answer to the question of whether or not the engraved cylinder and the machine to which it is fitted according to D27 can be considered as being suited for the intended use defined by claim 1 (cf. point 2.1.1).

6.3 In this respect the Board considers the opinion of the appellant as being correct, that the engraved cylinder according to D27 is suited to be used in this manner.

The reason is that, as outlined above, claim 1 does not comprise any structural feature going beyond the ones known from D27. In particular, it does not comprise a structural feature which relates to the intended use referred to in claim 1 and distinguishes the subject-matter of this claim over the engraved cylinder of D27. Consequently, since the engraved cylinder known from D27 does not differ with respect to its structure from the one defined by claim 1 of the patent in suit, it has to be concluded that the known engraved cylinder is suited to be used in the same manner as it is the case for the engraved cylinder according to claim 1.

In any case, the synthetic web as coated with the cylinder of D27 clearly falls under the "synthetic materials and the like" of claim 1. The reference to "hides" does not imply a certain size thereof,

therefore the 50 cm width of the cylinder of D27 does not disqualify this document either. The same applies for the term "rolled finishing", since gravure coating as in D27 is a specific form of rolled finishing.

- 6.4 The above holds true considering the further arguments of the respondent.

According to one line of argument the intended use referred to in claim 1 has, due to the nature of items to be treated listed in claim 1, an impact on the manner in which these items are fed towards the engraved cylinder.

According to a further line of argument the treatment referred to in claim 1, namely the rolled finishing of the items referred to, requires a specific structure of the engraved cylinder as well as of the machine to which the engraved cylinder is to be fitted.

- 6.5 Both arguments concern the manner in which claim 1 has to be understood.

In this respect it needs to be taken into account that claim 1 is directed to an engraved cylinder as such. Consequently features relating to the machine in which the engraved cylinder is intended to be used and to the cooperation of the engraved cylinder with such a machine and with the products to be treated cannot be read into claim 1. Moreover claim 1 does not comprise features defining the machine to which the engraved cylinder is to be fitted.

Additionally it needs to be taken into account that both arguments are based on an understanding of claim 1 in which features not present in this claim are to be considered and features comprised in this claim 1 are to be understood as defining more than what is actually stated by these features. As indicated above (point 6.2) such an understanding of features of claim 1 is not justified since no evidence supporting this view has been given and since moreover such an understanding is also not apparent from the combination of the features of claim 1.

Thus neither argument can be taken into account in the examination of novelty of the subject-matter of claim 1.

6.6 The subject-matter of claim 1 thus lacks novelty over D27 (Article 54 EPC) since, as can be derived from the above, the subject-matter of claim 1 is directly and unambiguously derivable from the disclosure of D27.

7. *Auxiliary request 1 - Novelty*

7.1 Claim 1 according to auxiliary request 1 is further distinguished from claim 1 according to the main request in that the feature referring to the intended use of the engraved cylinder now reads "for fitting to machines for the rolled finishing of **hides**". Thus a use with respect to artificial hides, fabric, synthetic materials and the like is no longer intended.

7.2 According to the respondent this amendment now clearly limits the subject-matter of present claim 1 to items which are separate from one another and consequently need to be fed separately. In this respect reference

was made to the description of the patent in suit, underlining regular feeding of the hides into the restricted zone (cf. paragraphs [0004], [0015], [0019] and [0020]) as an important aspect. In its view, a feature in claim 1 reflecting such separate feeding needs to be considered as implicitly forming part of its subject-matter. To the contrary, the engraved cylinder and the associated machine of D27 feeds and treats a web and therefore a continuous item.

The Board considers the argument that under the expression "hides" normally separate items are to be understood, which has not been disputed by the appellant, to be correct. Limitation of the intended use of the engraved cylinder to such separate items does, however, not lead to the conclusion that claim 1 has to be considered as implicitly comprising a further feature relating to the **separate** feeding of **hides**. Like claim 1 according to the main request (cf. points 6.2 to 6.5 above), present claim 1 is directed to an engraved cylinder as such.

The Board wishes to emphasize that, as outlined during the oral proceedings, although it is aware of difficulties which can arise in case separate hides have to be fed and treated, such circumstances cannot be considered in the examination of novelty, since they are not reflected in any of the (structural) features of claim 1.

The subject-matter of claim 1 thus in substance does not differ from the subject-matter of claim 1 according to the main request. It thus lacks novelty over D27

(Article 54 EPC) for the same reasons as given above in points 6.2 to 6.5.

8. *Auxiliary request 2 - inventive step*

8.1 *Subject-matter of claim 1*

Claim 1 according to auxiliary request 2 is directed to an engraved cylinder "fitted to a machine for the rolled finishing of hides for applying a liquid product to said hides". The structure of the engraved cylinder is identical to the one defined by each of the claims 1 of the previous requests (cf. point 2.1.2 above).

It is common ground that the subject-matter of the present claim 1 is no longer directed to an engraved cylinder as such for fitting to a machine but to an engraved cylinder fitted to a machine and thus to an assembly comprising an engraved cylinder as well as a machine.

8.2 *Application of the problem solution approach / avoidance of hindsight*

8.2.1 The respondent had reservations that hindsight might, inadmissibly, play a role in the examination of inventive step.

8.2.2 The Board indicated during the oral proceedings that if the problem-solution approach - commonly applied by the Boards of Appeal in the examination of inventive step - were properly applied, (consideration of) hindsight would be avoided.



In a first step the closest prior art for the assembly of the engraved cylinder and the machine has to be established. Then the subject-matter of claim 1 is to be compared with that assembly according to the closest prior art. Based on the effect(s) of the distinguishing feature(s) resulting from this comparison, the technical problem underlying the claimed subject-matter has to be formulated. As it is based on establishable technical effects not involving pointers to the solution it is the objective technical problem, avoiding hindsight. In a final step it then needs to be examined whether or not, starting from the closest prior art, attempting to solve that problem, the claimed solution is obvious or not. In this step further prior art or common technical knowledge has to be considered next to the closest prior art, where the skilled person would have done so.

### 8.3 *Closest prior art*

8.3.1 It is common ground that the assembly of the machine and the engraved cylinder fitted thereto as acknowledged in the patent in suit can be considered as closest prior art and thus as the appropriate starting point in the examination of inventive step.

8.3.2 Consequently, the following disclosure of the patent in suit is considered (paragraph [0002]) to constitute the closest prior art "As it is known in carrying out the finishing operation in the field of tannery industry, roller-machines are used in particular, more commonly known as dabbing machines or "roller-coaters", in which the hides are carried by a lower roll or a rubber mat and pressed against an opposing embossed roller

consisting of an engraved cylinder, which ensures the application to the surface of the hide of a uniform film of liquid product, previously distributed over the engraved surface of the said cylinder by means of one or several scrapers".

8.3.3 For the rotation of the engraved cylinder it is stated (paragraph [0003]) "The engraved cylinder can rotate in "synchro", that is to say in a manner in accordance with the direction of movement of the hide, or in "reverse", that is to say in a manner contrary to the aforesaid direction".

8.3.4 The finishing operation is described (paragraph [0004]) as "The complete success of the hide finishing operation depends on many factors, among which the regular feeding of the hide into the restricted zone, that is to say that comprised between the engraved cylinder and the underlying roller or conveyor mat, and depends above all on an optimal application to the hide of the liquid impregnation product".

8.3.5 For the structure of the engraved cylinder the patent mentions (paragraph [0014]) "In the present state of the art, the honeycombs with a pattern of positive impression having a continuous helical pattern, of essentially triangular cross-section, are produced with a helix angle sloping at  $45^\circ$ , that is to say with an axial pitch equal to the circumferential pitch, and that the value being the maximum possible used by the producers of engraved cylinders easier to produce to achieve satisfactory operation with the rolled finishing effect".

8.4 *Consideration of D27 as further prior art*

The parties are of differing opinions regarding whether D27 should be considered as further prior art.

8.4.1 According to the appellant D27 has to be considered, because the assembly of machine and engraved roller as disclosed in D27 has, besides possible differences in size, the same structure as the assembly according to the closest prior art and consequently also as the machine and engraved roller defined by claim 1.

8.4.2 According to the respondent the skilled person has no reason to consider D27 in an attempt to solve a problem associated with the closest prior art machine which, concerning its own structure and the structure of the engraved cylinder, greatly differs from the machine and the associated engraved cylinder according to D27. This becomes even more apparent taking into account that the intended use of the machine of D27 is completely different from that of the closest prior art machine and the one defined by claim 1.

8.4.3 The Board finds the argument of the appellant more convincing. The different uses for the assembly according to D27 and that according to the closest prior art and claim 1 cannot distract from the fact that apart from differences in size the basic structures of these machines insofar as relevant for the features of claim 1, are identical. Moreover, as indicated in the following (cf. point 8.6.8), D27 expressly refers to the angle of helix slope as an important parameter for the quality with which the liquid product is applied to the web. It thus also

corresponds in this respect with the subject-matter of claim 1.

Further, it can be expected of the skilled person to look for solutions in the general field of liquid application by rollers, which is B05C 1/08 in the International Patent Classification, see point 4.2 above.

There is thus no valid reason to not consider D27 in the examination of inventive step. This is also confirmed by the result of the examination of inventive step as arrived at in the following by the combined consideration of the machines and engraved cylinder of the closest prior art and of D27.

8.4.4 *Features distinguishing the subject-matter of claim 1 over the known machine with its known engraved cylinder for the rolled finishing of hides*

8.4.5 It is undisputed that the feature distinguishing the subject-matter of claim 1 from the known machine with its known engraved cylinder for the rolled finishing of hides is that the angle of the helix slope of the grooves in relation to the axis of the body of the cylinder is comprised between values of 50° and 89°.

8.5 *Effect of the distinguishing feature / technical problem solved in view of the closest prior art / solution*

8.5.1 The appellant accepted that, as argued by the respondent and referred to above (cf. point 2.3), the distinguishing feature has the **effects** derivable from

the patent in suit (paragraphs [0015] - [0021]). In combination these lead to the application of the liquid product over the hides being improved (with respect to the application of the liquid product as well as the feeding of the hides) in that irregular distribution is avoided.

8.5.2 The Board does, under the present circumstances, not see any reason to put, to the disadvantage of the respondent, into question that these effects are the result of the distinguishing feature and not - e.g. in combination therewith - also the result of other parameters. See in this respect the "many factors" referred to in paragraph [0004] and the viscosity of the liquid product (paragraph [0017]).

8.5.3 The **technical problem** based on the effects of the distinguishing feature can thus be formulated as how to improve the prior art machine with its engraved cylinder such that the quality with which the liquid product is applied to hides is improved (cf. paragraphs [0017] - [0021]). This problem thus in part corresponds to the one considered in the impugned decision (cf. point IV above).

8.5.4 The **solution** to this problem consists according to the subject-matter of claim 1 in that the angle of the helix slope of the engraved cylinder has values between 50° and 89°.

8.6 *Obviousness*

8.6.1 The prior art to be considered in the examination of inventive step consists, next to the acknowledged

closest prior art (cf. point 8.3.2 above), of D27 as further prior art (cf. point 8.4.3 above).

8.6.2 According to the appellant the machine according to claim 1 does not involve an inventive step starting from the machine and its engraved cylinder according to the acknowledged closest prior art and taking the teaching of D27 into account, in an attempt to solve the above defined problem.

8.6.3 According to the respondent even if the person skilled in the art would have considered D27, the combined consideration of the closest prior art with D27 would not have led in an obvious manner to the solution as defined by the subject-matter of claim 1. In its view it has to be taken into account that the use of the machine and the engraved cylinder according to claim 1 differs greatly from the use of the machine and its engraved cylinder according to D27.

As a consequence of these different uses different parameters are of importance for which moreover different values have to be set.

Focussing amongst these parameters on the engraved roller of D27 and even more specifically on the angle of the helix slope of its grooves has to be considered as based on hindsight, since there are many other parameters involved like the nature of the liquid product and the manner in which it is applied, the nature of the product on which the liquid product is to be applied and the manner in which the former is fed.

8.6.4 The arguments of the respondent are not convincing.

The skilled person starting from the machine according to the closest prior art (cf. point 8.3.2 above) is - from its knowledge of the known machine alone - aware of the fact that the **engraved cylinder is a key element** of that machine.

This can be derived already from the name "roller-coaters" given to a machine of this kind (cf. patent in suit, paragraph [0002]) which refers to the "roller" or, the engraved cylinder in the terminology of claim 1, as the important structural element.

This fact becomes even more apparent considering the structure of the known machine for which the engraved cylinder is of great importance, not only with respect to the application of the liquid product but also with respect to the feeding of the hides.

8.6.5 It is undisputed that, as derivable from the above results concerning the examination of novelty of the subject-matters of the claims 1 of the main request and auxiliary request 1, the machine of D27 is of the same type as the one according to the closest prior art.

8.6.6 There is thus no convincing reason to assume, that the skilled person does not consider the engraved cylinder of the machine according to D27, in an attempt to improve the prior art machine, since like for the prior art machine it is apparent that the engraved cylinder constitutes a key element for that machine as well.

Thus it can be concluded that the skilled person is prompted by its knowledge of the closest prior art machine to not only consider the machine according to D27 but more specifically also to focus attention on its engraved cylinder as the key element of this machine, more in particular the structure of that cylinder.

This is derivable from the acknowledgement of D27a in D27 (see e.g. column 1, line 48 - column 2, line 20) according to which D27a contains, although not for magnetic recording media - and thus the use of the machine according to D27 is not mentioned - "useful information concerning the design of a gravure roll that is to be used in direct gravure coating to deposit a high-viscosity fluid such as a pigmented binder." Concerning D27a it is further indicated in D27 that this "publication reports tests on a large number of gravure rolls, the cells of which are grooves with helix angles from 30° to 90° ...".

Moreover the disclosure of D27 shows i.a. a dependency on the angle of the helix slope of the grooves and the manner in which the engraved cylinder is driven (column 3, line 61 - column 4, line 17).

Considering the disclosure of D27a it becomes furthermore apparent that therein the angle of the helix slope of the grooves is considered to be an essential parameter, irrespective of the liquid product and the substrate to which it is applied (see e.g. the sections "RESULTS" and "CONCLUSIONS" of page 1313).



8.6.7 The not further supported allegation of the respondent that consideration of the engraved cylinder of D27 is based on hindsight thus lacks any factual support considering the disclosures with respect to the closest prior art, of D27 and of D27a.

8.6.8 The skilled person starting from the closest prior art machine considering and attempting to solve the problem (cf. point 8.5.3 above) is, as indicated above, aware of the fact that the engraved cylinder is a key element of this prior art machine and correspondingly for the machine according to D27.

D27 not only discloses that the angle of the helix slope is the important parameter with respect to the design of the engraved cylinder (cf. point 8.6.6 above) but also mentions value ranges for the angle of the helix slope from 30° to 90° (column 1, line 56 - column 2, line 20) and more specifically to preferred ranges from 60° to 80° for forward ("synchro") differential-speed gravure coating and 30° to 60° for reverse gravure coating (column 3, line 61 - column 4, line 17).

These helix angles are mentioned to produce "stable merged pickout" i.e. a proper, equal transfer of the liquid to the product, i.e. improved quality.

8.6.9 The disclosure of D27 thus firstly gives a clear indication that the engraved cylinder and the angle of the helix slope of its grooves are a key element of the machine and an important parameter to be considered in the design of the engraved cylinder. It secondly gives a clear indication that values for the angle of the

helix slope of the grooves of the engraved cylinder lying well within the range defined by claim 1 are suggested by D27 to be advantageous.

- 8.6.10 Since it is evident that this teaching of D27 can easily be utilized within the machine and cylinder according to the closest prior art, the only modification being the change of the helix angle of the engraved cylinder as proposed by D27, the resulting subject-matter of claim 1 comes within regular design practice, not requiring inventive step.

The subject-matter of claim 1 of auxiliary request 2 thus cannot be considered as involving an inventive step (Article 56 EPC).

This also holds true considering the further counter-arguments of the respondent.

- 8.6.11 According to one argument D27 concerns the application of an entirely different liquid product and furthermore refers to parameters other than the angle of the helix slope with respect to the quality of application of the liquid.

It is argued that this is derivable from the patent in suit as well as D27.

For **D27** it does, however, not take into account the importance given therein to the angle of the helix slope of the grooves, which is discussed independently of the nature of the liquid product to be applied (cf. column 1, line 48 - column 2, line 20). This understanding is furthermore corroborated by the

disclosure of D27a as referred to above (cf. point 8.6.6).

With respect to the **subject-matter of claim 1** it has to be said that in this claim neither the liquid product nor the manner in which the hides are "rolled finished" are defined in a way making it inventive over the combined consideration of the machine according to the closest prior art and the teaching of D27 as indicated above.

This is due to the fact that claim 1 only refers generally to "rolled finishing of hides" without further specifying any other parameters with respect to the liquid product to be applied or the nature of the hides to be treated.

According to the **patent in suit** the liquid product can have a low or a high viscosity (cf paragraph [0017]). Furthermore, the angle of the helix slope is said to be only one of various parameters on which the proper application of the liquid product on hides depends (cf. paragraph [0004]).

Since neither material properties of the liquid product nor further parameters on which the quality of the application of the liquid product depends are defined in claim 1 the finding that the subject-matter of this claim does not involve an inventive step cannot be invalidated by reference to such properties or parameters which evidently do not form part of the solution according to claim 1 and which, according to the disclosures of D27 or D27a as referred to above, do not reduce or qualify the importance of the angle of

the helix slopes of the grooves of the engraved cylinder.

8.6.12 According to a further argument the skilled person would not have considered the engraved cylinder according to D27 because it is of a size different from the one according to the closest prior art machine, owing to the different uses of both machines and in particular to the different items to be treated. Use of the engraved cylinder according to D27 would thus have required substantial modification of the engraved cylinder of D27 and/or the closest prior art machine.

While the facts underlying this argument can be true depending on the size of the hides to be finished with the prior art machine and the size of the backing web to be coated with a magnetizable layer with the machine according to D27, the conclusion drawn therefrom cannot.

The reason is that, as indicated by the Board during the oral proceedings, the result of the combined consideration of the machine according to the closest prior art and the one according to D27 is not that an engraved cylinder of the machine according to D27 is modified to fit in size and then used to replace the engraved cylinder of the machine according to the closest prior art, but that it is the teaching of D27 which is applied to the known machine and the known cylinder (cf. point 8.6.10).

Assuming such a conduct of the skilled person completely neglects that the notional skilled person is by definition not an amateur.

Instead it has at its disposition general technical knowledge and common general technical practice. For the present case this leads the skilled person to only modify what is necessary, namely the engraved cylinder of the closest prior art machine, according to the teaching of D27.

Taking this straightforward approach there is no need to modify the engraved cylinder according to D27 and/or the machine according to the closest prior art to adapt these elements to fit in size to each other. Such a course of action cannot in any case be considered as requiring a too high level of general technical knowledge or of general technical practice being attributed to the skilled person.

9. *Auxiliary request 3 - inventive step*

Claim 1 according to this request comprises, in addition to claim 1 according to auxiliary request 2, further features in the preamble of this claim relating to the structure of the machine to which the engraved cylinder is fitted. According to these additional features the machine comprises a lower roll or conveyor mat for carrying said hides and pressing said hides against said engraved cylinder. Concerning the engraved cylinder it is further defined that it is configured to apply a liquid impregnation product, previously distributed over the surface of the engraved cylinder by means of one or separate scrapers.

For the machine according to the closest prior art it is known that a lower roll or a conveyor mat is provided for carrying the hides (cf. paragraph [0002]).

Furthermore it is known to apply a liquid impregnation product (cf. paragraph [0004]) and to distribute the liquid impregnation product over the surface of the engraved cylinder by means of one or separate scrapers (cf. paragraph [0002]).

Thus none of the features added to claim 1 is a distinguishing feature over the machine according to the closest prior art.

Consequently since no additional distinguishing features have to be taken into account in the examination of inventive step the result does not differ from the result given above with respect to the subject matter of claim 1 of auxiliary request 2 (cf. point 8.6.10 above).

The subject-matter of claim 1 according to auxiliary request 3 thus does not involve an inventive step (Article 56 EPC).

10. *Auxiliary request 4 - inventive step*

- 10.1 Claim 1 according to this request differs from claim 1 according to auxiliary request 2 in that it is directed to the **use** of an engraved cylinder fitted to a machine. It is thus directed to the use of the machine defined by the subject-matter of claim 1 according to that auxiliary request. Since the claim concerned does not comprise any other additional features it is evident that, as indicated by the Board at the oral proceedings, the defined use is the one for which the machine according to claim 1 of auxiliary request 2 is designed.

10.2 However, as referred to by the appellant during the oral proceedings, the use of a non-inventive machine corresponding to the purpose for which this machine is designed, cannot lead to it involving an inventive step.

If the skilled person modifies the machine according to the closest prior art such that its engraved cylinder has the angle of the helix slope of its grooves as suggested by D27, a known finishing treatment for which the machine is intended (cf. paragraph [0002]) remains within the normal use of the known machine. Inventive step cannot therefore be acknowledged for the reasons given above with respect to the engraved cylinder fitted to a machine for the rolled finishing of hides according to claim 1 of auxiliary request 2 (cf. point 8.6.10 above).

The subject-matter of claim 1 thus does not involve an inventive step (Article 56 EPC).

10.3 This holds true considering the argument of the respondent emphasizing that D27 does not contain any indication to consider the engraved cylinder disclosed therein in connection with the use as defined by claim 1.

This argument is, as indicated by the Board during the oral proceedings, not in line with the problem solution approach (cf. point 8.2.2 above) since it completely neglects that also with respect to the use of the machine the starting point in the examination of inventive step remains the closest prior art machine and the use this machine is known for (cf. paragraph [0002]). It might actually be concluded that such an

argument is based on hindsight, despite of the reservations expressed by the respondent that the examination of inventive step might be tainted by hindsight (cf. point 8.2.1 above).

- 10.4 The question raised by the Board during the oral proceedings concerning a reason as to why D27 should be considered as closest prior art instead of the prior art referred to in the patent in suit (paragraph [0002]) remained unanswered by the respondent.

The Board wishes for completeness' sake to mention the general principle that in the examination of inventive step any suitable starting point can qualify as closest prior art. At present this is certainly the case for the prior art machine and its known use as referred to in the patent in suit (paragraphs [0001] and [0002]).

11. Since none of the subject-matters of the claims 1 according to all requests satisfies the requirement of Article 56 EPC the patent has to be revoked.



**Order**

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

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders