Local division Mannheim

UPC_CFI_340/2023

Decision
of the Court of First Instance of the Unified Patent Court pronounced on 31 January 2025
concerning EP 2 548 648

KLÄGERIN

Rematec GmbH & Co KG
Poststraße 10 - 84378 - Dietersburg - DE

represented by: authorised representative
Blumenröder

DEFENDANTS

Europe Forestry B.V.
Stegerdijk 13 - 7737PT - Stegeren - NL

represented by: authorised representative
Rüberg

PATENT IN SUIT: EP 2 548 648

CONTRIBUTING JUDGES:

- Presiding judge P. Tochtermann
- Legally qualified judge and judge-rapporteur H. Kircher
- Legally qualified judge M. Kokke
- Technically qualified judge N. Geier

LANGUAGE OF THE PROCEEDINGS: German

SUBJECT MATTER: Action for infringement and action for annulment

ORAL NEGOTIATION: 27 November 2024

PROPERTY:

The subject matter of the present legal dispute is, on the one hand, a patent infringement action within the meaning of Art. 32 para. 1 lit. a UPCA and, on the other hand, an action for revocation within the meaning of Art. 32 para. 1 lit. e UPCA.

Both parties are suppliers of machines for forestry technology. Among other things, the parties also sell mills for shredding wood chips.

The plaintiff is the applicant for and proprietor of European patent EP 2 548 648 (hereinafter referred to as the patent in suit). The patent in suit relates to a "mill for comminution of ground material". It was filed in German on 25 June 2012, claiming the priority of the German utility model DE 20 2011 103 394 U of 19 July 2011. The reference to the publication of the patent in suit was on 8 October 2014. No opposition was filed. The opt-out originally declared on 30 May 2023 with regard to the patent in suit was withdrawn by the plaintiff on 7 June 2023.

Device claim 1 of the patent in suit, as granted, reads as follows:

1. Mühle (1) zur Zerkleinerung von Mahlgut, insbesondere von Holzhackschnitzeln,
mit einem Mahlwerk, das einen Rotor (3) mit einer Vielzahl von Mahlelementen (5) aufweist, wobei der Rotor (3) um eine Rotationsachse (R) in einem Mahlraum antreibbar ist,
wobei die Innenwand (2) des Mahlraums mit den Mahleelementen (5) zusammenwirkt, um das Mahlgut zu zerkleinern, und
wobei der Mahlraum eine Zuführöffnung (11) und eine Abführöffnung (13) aufweist, die eine bezüglich der Rotationsachse (R) im Wesentlichen radiale Zuführung und Abführung von Mahlgut ermöglichen,
dadurch gekennzeichnet, dass
die Zuführöffnung (11) und die Abführöffnung (13) jeweils im unteren Bereich des Mahlraums angeordnet sind,
dass die Zuführöffnung (11), der höchste Punkt des Mahlraums, und die Abführöffnung (13) am Umfang der Innenwand (2) des Mahlraums in Rotationsrichtung (R) des Rotors (3) sequentiell angeordnet sind, und
dass die Abführöffnung (13) siebfrei ist.

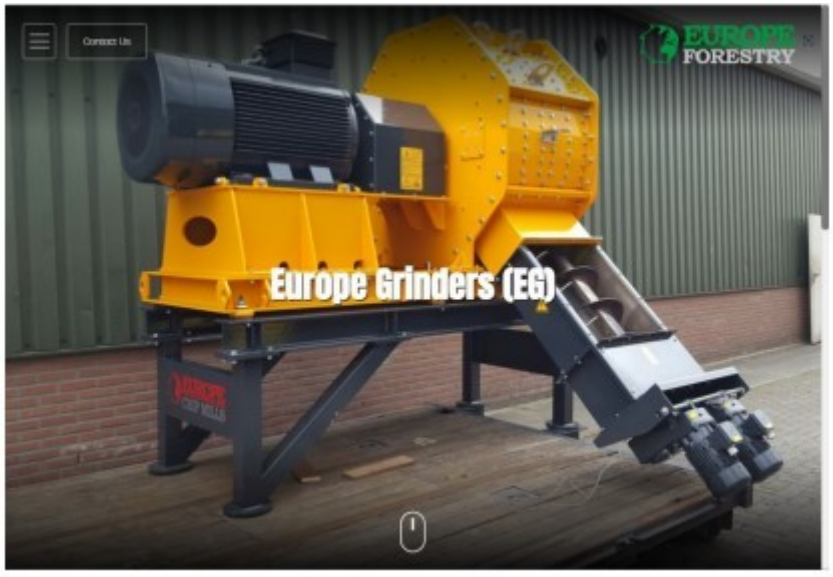
Claim 15 of the patent in suit, as granted, reads as follows:

15. Verfahren zur Zerkleinerung von Mahlgut in einer Mühle (1) mit einem Mahlwerk, das einen Rotor (3) mit einer Vielzahl von Mahlelementen (5) aufweist, wobei der Rotor (3) um eine Rotationsachse (R) in einem Mahlraum angetrieben wird, und wobei zunächst das Mahlgut durch eine Zuführöffnung (11) im unteren Bereich des Mahlraums zugeführt wird, dann durch Zusammenwirkung der Innenwand (2) des Mahlraums und der Mahlelemente (5) zerkleinert wird, während es von der Zuführöffnung (11), über den höchsten Punkt des Mahlraums zu einer Abführöffnung (13) transportiert wird, und wobei schließlich das Mahlgut in im Wesentlichen radialer Richtung durch die im unteren Bereich des Mahlraums gelegene Abführöffnung (13) abgeführt wird, wobei die Abführöffnung (13) siebfrei ist.

With regard to the further details of the patent in suit - in particular also with regard to the designated contracting member states - reference is made to the patent in suit submitted as Annex K5.

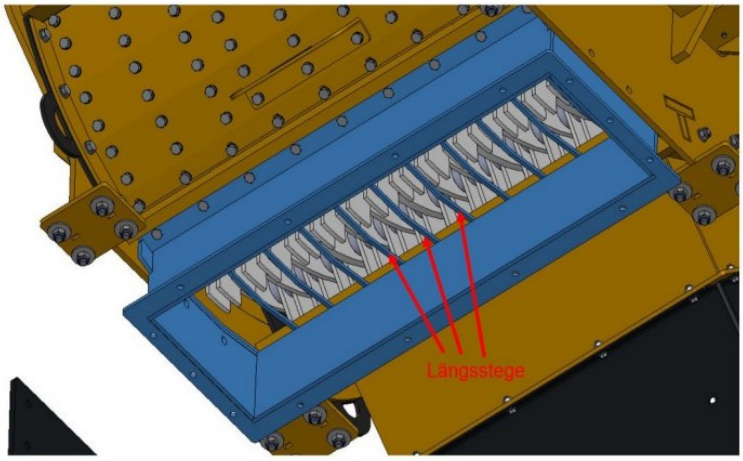
The defendant offers - inter alia on the Internet - grinders under the names "Europe Grinders" and "Europe Chip Mills" (hereinafter: attacked design). To date, the defendant has sold two challenged embodiments to customers.

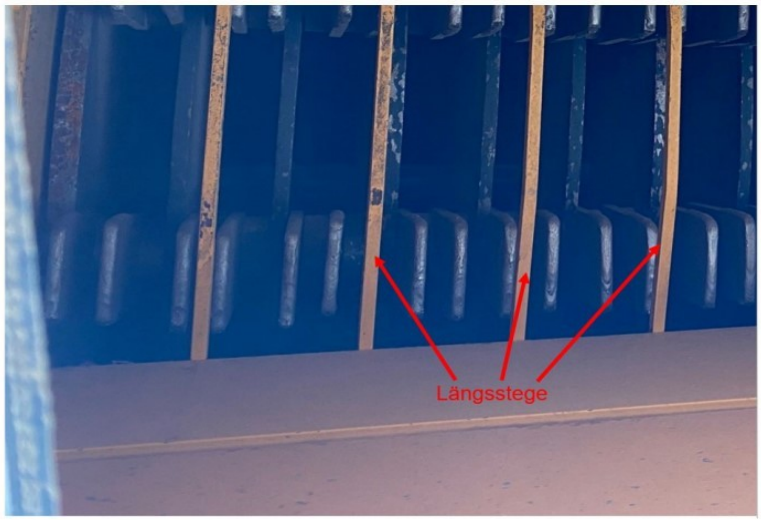
The design of the contested embodiment is shown in the figure below.



The attacked embodiment has, among other things, a discharge opening through which the ground material can leave the grinding chamber. Several parallel longitudinal webs are ordered in the discharge opening. The specific design of the discharge opening of the attacked embodiment

including the parallel longitudinal webs located there is shown in the two figures below.





In the specific illustration, the distance between the longitudinal bars is 110 mm. According to the defendant's submission, the customer can choose between several different distances (50, 70, 90, 110 and 130 mm).

APPLICATIONS BY THE PARTIES

A. Applications for the infringement action:

The applicant claims that the Court should:

1. The defendant is ordered to cease and desist,

1.1 one

1a) Mill for grinding material, especially wood chips,

1b) with a grinding mechanism a rotor with a plurality of grinding elements, the rotor being drivable about an axis of rotation in a grinding chamber,

1c) wherein the inner wall of the grinding chamber co-operates with the grinding elements to comminute the material to be ground, and

1d) wherein the grinding chamber has a feed opening and a discharge opening, which a substantially radial feed and discharge of material to be ground with respect to the axis of rotation,

1e) whereby the feed opening and the discharge opening are each ordered in the lower area of the grinding chamber,

1f) wherein the feed opening, the highest point of the grinding chamber, and the discharge opening are arranged sequentially on the periphery of the inner wall of the grinding chamber in the direction of rotation of the rotor, and

1g) whereby the discharge opening is sieve-free,

in the Netherlands and/or to offer, place on the market or use in Austria, Belgium, Bulgaria, Germany, Denmark, Finland, France, Italy, the Netherlands, Portugal, Sweden and Slovenia or to either import or possess for the aforementioned purposes.

(claim 1 of EP 2 548 648, in direct infringement)

Alternatively to 1.1:

1.1.1 Application according to 1.1 modified in that feature 1g) is replaced by the feature,

that the discharge opening contains longitudinal webs which have openings with a clear length of at least 200 mm in the tangential direction and a clear width in the axial direction of at least 50 mm,

alternatively of at least 70 mm,

alternatively of at least 90 mm,

alternatively of at least 110 mm.

Further alternatively to 1.1.1:

1.1.2 Application 1.1.1 with the proviso that the mill is additionally provided with a forced feed (12) which feeds the material to be ground through the feed opening (11),

Feature h) from the original claim 10 according to auxiliary request 2

Further in the alternative:

1.1.3 Application 1.1.2 with the proviso that the forced feed (12) of the mill is also a screw conveyor.

Feature i) according to the original claim 11 according to auxiliary request 3

Further in the alternative:

1.1.4 Order 1.1.1 with the proviso that the feed opening (11) and the discharge opening (13) of the mill are additionally ordered at the same axial height with respect to the axis of rotation (R) of the rotor (3).

Feature j) according to the original claim 3 according to Alt. 1 of auxiliary request 4

In the alternative:

1.1.5 Application 1.1.1 with the proviso that, in the mill, the material to be ground is additionally comminuted primarily between the grinding elements (3) and the inner wall of the grinding chamber (2).

Feature k) approximately corresponding to the original claim 6 according to Alt. 2 of auxiliary request 4,
Replacing "exclusively" with "primarily"

In the alternative:

1.1.6 Application 1.1.1 with the proviso that the mill is additionally provided with a forced feed (12) which feeds the material to be ground in a radial direction through the feed opening (11).

Feature l) according to the original claim 10 according to Alt. 3 of auxiliary request 4

Further in the alternative:

1.1.7 Application 1.1.4 with the proviso that, in the mill, the material to be ground is additionally comminuted primarily between the grinding elements (3) and the inner wall of the grinding chamber (2).

Feature k) approximately corresponding to the original claim 6 according to Alt. 1 of auxiliary request 5

Further in the alternative:

1.1.8 Application 1.1.1 with the proviso that the mill is additionally provided with a forced feed (12) which feeds the material to be ground in a radial direction through the feed opening (11).

Feature l) according to the original claim 10 according to

auxiliary claim 8 and the forced feed (12) is a screw conveyor.

Feature i) according to the original claim 11 according to auxiliary request 8

Further in the alternative:

1.1.9 Application 1.1.4 with the proviso that in the mill the inner wall (2) of the grinding chamber additionally has a plurality of parallel ribs (10) which are obliquely to the circumferential direction and which are arranged at an angle of 30 to 60 degrees to the circumferential direction.

Feature m) from the original claim 12 according to the auxiliary request

1.2 a grinder that is suitable for this purpose,

15a) to run a process for grinding material in a mill,

15b) with a grinding mechanism comprising a rotor with a plurality of grinding elements, the rotor being driven about an axis of rotation in a grinding chamber, and

15c) whereby the material to be ground is first fed through a feed opening in the lower area of the grinding chamber,

15d) is then comminuted by the interaction of the inner wall of the grinding chamber and the grinding elements,

15e) while it is transported from the feed opening via the highest point of the grinding chamber to a discharge opening, and

15f) whereby the ground material is finally discharged in an essentially radial direction through the discharge opening located in the lower area of the grinding chamber,

15g) whereby the discharge opening is sieve-free,

and/or deliver to customers in Austria, Belgium, Bulgaria, Germany, Denmark, Finland, France, Italy, the Netherlands, Portugal, Sweden and Slovenia.

(claim 15 of EP 2 548 648, in indirect infringement)

Alternatively to 1.2:

1.2.1 Application according to I.,1., 1.2 modified in that feature 15g) is replaced by the feature that the discharge opening contains longitudinal webs which have openings with a clear length of at least 200mm in the tangential direction and a clear width in the axial direction of at least 50mm

alternatively of at least 70 mm,

alternatively of at least 90 mm,

alternatively of at least 110 mm.

Further in the alternative to I., 1., 1.2.1:

1.2.2 Application I., 1., 1.2.1 with the proviso that an additional forced feed is installed at the mill. (12) is provided, which feeds the ground material through the feed opening (11),

Feature h) from the original claim 10 according to auxiliary request 2

Further in the alternative:

1.2.3 Application I., 1., 1.2.2 with the proviso that, in the case of the mill, the forced feed (12) is a screw conveyor.

Feature i) according to the original claim 11 according to auxiliary request 3

Further in the alternative:

1.2.4 Application 1.2.1 with the proviso that the feed opening (11) and the discharge opening (13) of the mill are additionally ordered at the same axial height with respect to the axis of rotation (R) of the rotor (3).

Feature j) according to the original claim 3 according to Alt. 1 of auxiliary request 4

In the alternative:

1.2.5 Application according to 1.2.1 with the proviso that in the mill, the grinding of the material to be ground is additionally carried out primarily between the grinding elements (3) and the inner wall of the grinding chamber (2).

Feature k) corresponding to the original claim 6 according to Alt. 2 of auxiliary request 4

In the alternative:

1.2.6 Application 1.2.1 with proviso that the mill is additionally provided with a forced feed (12) which feeds the material to be ground in a radial direction through the feed opening (11).

Feature l) according to the original claim 10 according to Alt. 3 of auxiliary request 4

Further in the alternative:

1.2.7 Application 1.2.4 with the proviso that, in the mill, the material to be ground is additionally comminuted primarily between the grinding elements (3) and the inner wall of the grinding chamber (2).

Feature k) corresponding to the original claim 6 according to Alt. 1 of auxiliary request 5

Further in the alternative:

1.2.8 Application 1.2.1 with proviso that the mill is additionally provided with a forced feed (12) which feeds the material to be ground in a radial direction through the feed opening (11).

Feature l) according to the original claim 10 according to

auxiliary claim 8 and the forced feed (12) is a screw conveyor.

Feature i) according to the original claim 11 according to auxiliary request 8

Further in the alternative:

1.2.9 Application 1.2.4 with the proviso that in the mill the inner wall (2) of the grinding chamber additionally has a plurality of parallel ribs (10) which are ordered obliquely to the circumferential direction and which are arranged at an angle of 30 to 60 degrees to the circumferential direction.

Feature m) from the original claim 12 according to auxiliary request 9

2. Orders the defendant to pay, at its own expense

2.1 to recall the products from the distribution channels in accordance with Clause I;

2.2 to permanently remove the products pursuant to Clause I from the distribution channels and

2.3 to destroy the products pursuant to Clause I in its possession.

3. The defendant is ordered to the plaintiff with the following information:

- Origin and distribution channels of the products in accordance with Section I.,

- the quantities produced, manufactured, delivered, received or ordered and the prices paid for the products in accordance with Section I and

- the identity of all third parties involved in the manufacture or distribution of products in accordance with Section I.

4. The plaintiff is authorised to announce and publish the decision in whole or in part in public media, whereby the defendant is to reimburse the costs for a full-page publication (print) in five national daily newspapers and five specialist media, in each case at the plaintiff's discretion.

5. In the event of any infringement of

1. the decision pursuant to Section I. and

2. against the Orders pursuant to Sections III and IV

the defendant shall a repeated penalty payment to the court, the amount of which shall be determined by the court.

6. It is established that the defendant must pay compensation to the plaintiff for any damage incurred and to be incurred as a result of actions pursuant to Section I since 8 November 2014, whereby the amount of the damage is to be determined in subordinate proceedings.

The defendant is also ordered to pay EUR 50,000.00 as liquidated damages for the time being.

The defendant claims:

The action is dismissed.

B. Applications for annulment:

The defendant finally requests:

The European patent EP 2 548 648 is revoked in its entirety with effect in Germany, the Netherlands, Austria, Belgium, Bulgaria, Denmark, Finland, France, Italy, Portugal, Romania, Sweden and Slovenia.

Insofar as the counterclaim for revocation was originally also directed to the cancellation of EP 2 548 648 Switzerland, the Czech Republic, Spain, Great Britain, Croatia, Hungary, Ireland, Liechtenstein, Poland, the Slovak Republic and Turkey, the defendant requested the partial withdrawal of the counterclaim at the oral hearing. After hearing the plaintiff, the panel granted the application by means of an Order issued at the hearing and declared the legal dispute concerning the counterclaim terminated to the extent requested. This justifies the share of the costs award attributable to the defendant in the amount of ¼ of the costs.

The applicant claims that the Court should,

1. dismiss the action for annulment,

2. in the event that the court considers claims 1 and 15 in the granted version not to be legally valid, to maintain the patent-in-suit with the following claims (amendments to the granted version are underlined in each case):

Auxiliary request 1:

- Claims 1 to 5 and 7 to 15 as granted

- Claim 6: Mill according to one of the preceding claims, wherein the comminution of the material to be ground takes place ~~exclusively~~ primarily between the grinding elements (5) and the inner wall (2) of the grinding chamber.

Auxiliary request 2:

- Claims 2 to 5, 7 to 9 and 11 to 14 as granted

- Claim 1: A mill (1) for comminuting material to be ground, in particular wood chips, with a grinding mechanism which has a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) can be driven about an axis of rotation (R) in a grinding chamber, wherein the inner wall (2) of the grinding chamber co-operates with the grinding elements (5) in order to comminute the material to be ground, and wherein the grinding chamber has a feed opening (11) and a discharge opening (13) which permit a substantially radial feed and discharge of material to be ground with respect to the axis of rotation (R), characterised in that the feed opening (11) and the discharge opening (13) are each arranged in the lower region of the grinding chamber, in that the feed opening (11), the highest point of the grinding chamber, and the discharge opening (13) are arranged sequentially on the circumference of the inner wall (2) of the grinding chamber in the direction of rotation (R) of the rotor (3), and in that the discharge opening (13) is sieve-free, a forced feed (12) being provided which feeds the material to be ground through the feed opening (11).

- Claim 6: Mill according to one of the preceding claims, wherein the comminution of the material to be ground takes place ~~exclusively~~ primarily between the grinding elements (5) and the inner wall (2) of the grinding chamber.

- Claim 10: Mill according to any of the preceding claims, wherein the forced feed (12) feeds the material to be ground in radial direction through the feed opening (11).

- Claim 15: A method of comminuting material to be ground in a mill (1) with a grinding mechanism a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) is driven about an axis of rotation (R) in a grinding chamber, and wherein first the material to be ground fed through a feed opening (11) in the lower region of the grinding chamber, is then comminuted by interaction of the inner wall (2) of the grinding chamber and the grinding elements (5), while it transported from the feed opening (11) via the highest point of the grinding chamber to a discharge opening (13), and wherein

finally, the material to be ground is discharged in a substantially radial direction through the discharge opening (13) located in the lower region of the grinding chamber, the discharge opening
(13) is sieve-free, whereby a forced feed (12) is provided, which feeds the ground material through the feed opening (11).

Auxiliary request 3:

- Claims 2 to 5 and 7 to 9 as granted

- Claim 1: Claim 1: A mill (1) for comminuting material to be ground, in particular wood chips, comprising a grinding mechanism having a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) is drivable about an axis of rotation (R) in a grinding chamber, wherein the inner wall (2) of the grinding chamber co-operates with the grinding elements (5) in order to comminute the material to be ground, and wherein the grinding chamber has a feed opening (11) and a discharge opening (13), which enable a substantially radial feed and discharge of material to be ground with respect to the axis of rotation (R), characterised in that the feed opening (11) and the discharge opening (13) are each arranged in the lower region of the grinding chamber, in that the feed opening (11), the highest point of the grinding chamber, and the discharge opening (13) are arranged sequentially on the circumference of the inner wall (2) of the grinding chamber in the direction of rotation (R) of the rotor (3), and in that the discharge opening (13) is sieve-free, wherein a forced feed (12) is provided which feeds the material to be ground through the feed opening (11), and wherein the forced feed (12) is a screw conveyor.

- Claim 6: Mill according to one of the preceding claims, wherein the comminution of the material to be ground takes place ~~exclusively~~ primarily between the grinding elements (5) and the inner wall (2) of the grinding chamber.

- Claim 10: Mill according to any of the preceding claims, wherein the forced feed (12) feeds the material to be ground in radial direction through the feed opening (11).

- Claim 11 not applicable

- Claim 12 becomes 11, 13 becomes 12 and 14 becomes 13

- Claim 14: A method for comminuting material to be ground in a mill (1) with a grinding mechanism a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) is driven about an axis of rotation (R) in a grinding chamber, and wherein first the material to be ground fed through a feed opening (11) in the lower region of the grinding chamber, then being comminuted by interaction of the inner wall (2) of the grinding chamber and the grinding elements (5), while it transported from the feed opening (11), via the highest point of the grinding chamber to a discharge opening (13) and finally the material to be ground being conveyed in a substantially radial direction through the grinding elements (5) located in the lower region of the grinding chamber.

discharge opening (13) located in the grinding chamber, whereby the discharge opening (13) is sieve-free, wherein a forced feed (12) is provided, which feeds the material to be ground through the feed opening (11), and wherein the forced feed (12) is a screw conveyor.

Auxiliary request 4:

- Claim 1: A mill (1) for comminuting material to be ground, in particular wood chips, with a grinding mechanism which has a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) can be driven about an axis of rotation (R) in a grinding chamber, wherein the inner wall (2) of the grinding chamber co-operates with the grinding elements (5) in order to comminute the material to be ground, and wherein the grinding chamber has a feed opening (11) and a discharge opening (13), which enable a substantially radial feed and discharge of material to be ground with respect to the axis of rotation (R), characterised in that the feed opening (11) and the discharge opening (13) are each arranged in the lower region of the grinding chamber, in that the feed opening (11), the highest point of the grinding chamber, and the discharge opening (13) are arranged sequentially on the circumference of the inner wall (2) of the grinding chamber in the direction of rotation (R) of the rotor (3), and in that the discharge opening (13) is sieve-free; wherein the feed opening (11) and the discharge opening (13) are arranged at the same axial height with respect to the axis of rotation (R) of the rotor (3), or the comminution of the material to be ground takes place primarily between the grinding elements (3) and the inner wall of the grinding chamber (2), or wherein a forced feed (12) is provided which feeds the material to be ground in the radial direction through the feed opening (11).

- Claim 2: The mill according to claim 1, wherein the mill (1) is designed so that the material to be ground is transported during the grinding process by the grinding elements (5) from the feed opening (11) via the highest point within the grinding chamber, and is then discharged through the discharge opening (13).

- Claim 3: Mill according to any one of the preceding claims, wherein the discharge opening (13) is ordered at the essentially lowest point of the grinding chamber.

- Claim 4: The mill according to any one of the preceding claims, wherein the angle about the axis of rotation (R) from the feed opening (11) to the discharge opening (13) in the direction of rotation is more than 270 degrees.

- Claim 5: Mill according to any one of the preceding claims, wherein the grinding chamber has only one feed opening (11) and only one discharge opening (13).

- Claim 6: Mill according to one of the preceding claims, wherein the mill (1) is designed such that almost the entire ground material or at least the predominant part

of the ground material leaves the grinding chamber through the discharge opening (13) before a full cycle is completed.

- Claim 7: Mill according to any one of the preceding claims, wherein the grinding elements (5) are each rotatably mounted on an axle (6) which extends in the axial direction and at a radial distance from the axis of rotation (R) of the rotor (3).

- Claim 8: The mill according to any one of the preceding claims, wherein the forced feed (12) is a screw conveyor.

- Claim 9: The mill according to any one of the preceding claims, wherein the inner wall (2) of the grinding chamber comprises a plurality of parallel ribs (10) ordered obliquely to the circumferential direction and arranged at an angle of 30 to 60 degrees to the circumferential direction, and in particular arranged at an angle of approximately 42.5 degrees to the circumferential direction.

- Claim 10: The grinder according to any one of the preceding claims, wherein a screen is provided at a distance from the discharge opening (13), which is designed to screen material discharged through the discharge opening (13).

- Claim 11: The grinder according to claim 10, wherein the grinder (1) is adapted to feed the material that does not pass through the screen back to the feed opening (11).

- Claim 12: A method of comminuting material to be ground in a mill (1) having a grinding mechanism a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) is driven about an axis of rotation (R) in a grinding chamber, and wherein first the material to be ground fed through a feed opening (11) in the lower region of the grinding chamber, then being comminuted by interaction of the inner wall (2) of the grinding chamber and the grinding elements (5), while it transported from the feed opening (11), via the highest point of the grinding chamber to a discharge opening (13), and finally the material to be ground being discharged in a substantially radial direction through the discharge opening (13) located in the lower region of the grinding chamber, the discharge opening (13) being located in the lower region of the grinding chamber.
  (13) is sieve-free; wherein the feed opening (11) and the discharge opening (13) are arranged at the same axial height with respect to the axis of rotation (R) of the rotor (3), or the comminution of the material to be ground takes place primarily between the grinding elements (3) and the inner wall of the grinding chamber (2), or wherein a forced feed (12) is provided which feeds the material to be ground in the radial direction through the feed opening (11).

Auxiliary request 5:

- Claim 1: Mill (1) for comminuting material to be ground, in particular wood chips, having a grinding mechanism which a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) rotates about an axis of rotation (R) in a

grinding chamber is drivable, wherein the inner wall (2) of the grinding chamber cooperates with the grinding elements (5) in order to comminute the material to be ground, and wherein the grinding chamber has a feed opening (11) and a discharge opening (13), which enable a substantially radial feed and discharge of material to be ground with respect to the axis of rotation (R), characterised in in that the feed opening (11) and the discharge opening (13) are each arranged in the lower region of the grinding chamber, in that the feed opening (11), the highest point of the grinding chamber, and the discharge opening (13) are arranged sequentially on the circumference of the inner wall (2) of the grinding chamber in the direction of rotation (R) of the rotor (3), and in that the discharge opening (13) is sieve-free; and wherein the feed opening (11) and the discharge opening (13) are arranged at the same axial height with respect to the axis of rotation (R) of the rotor (3), and the comminution of the material to be ground takes place primarily between the grinding elements (3) and the inner wall of the grinding chamber (2); or wherein a forced feed (12) is provided, which feeds the material to be ground in the radial direction through the feed opening (11).

- Claim 2: The mill according to claim 1, wherein the mill (1) is designed so that the material to be ground is transported during the grinding process by the grinding elements (5) from the feed opening (11) via the highest point within the grinding chamber, and is then discharged through the discharge opening (13).

- Claim 3: Mill according to any one of the preceding claims, wherein the discharge opening (13) is ordered at the essentially lowest point of the grinding chamber.

- Claim 4: The mill according to any one of the preceding claims, wherein the angle about the axis of rotation (R) from the feed opening (11) to the discharge opening (13) in the direction of rotation is more than 270 degrees.

- Claim 5: Mill according to any one of the preceding claims, wherein the grinding chamber has only one feed opening (11) and only one discharge opening (13).

- Claim 6: Mill according to one of the preceding claims, wherein the mill (1) is designed such that almost all or at least the majority of the material to be ground leaves the grinding chamber through the discharge opening (13) before completion of a full revolution.

- Claim 7: Mill according to any one of the preceding claims, wherein the grinding elements (5) are each rotatably mounted on an axle (6) which extends in the axial direction and at a radial distance from the axis of rotation (R) of the rotor (3).

- Claim 8: The mill according to any one of the preceding claims, wherein the forced feed (12) is a screw conveyor.

- Claim 9: The mill according to any one of the preceding claims, wherein the inner wall (2) of the grinding chamber comprises a plurality of parallel ribs (10) ordered obliquely to the circumferential direction and arranged at an angle of 30 to 60 degrees to the circumferential direction,

and in particular are ordered at an angle of approximately 42.5 degrees to the circumferential direction.

- Claim 10: The mill according to any one of the preceding claims, wherein a screen is provided at a distance from the discharge opening (13), which screen is designed to screen material discharged through the discharge opening (13).

- Claim 11: The grinder according to claim 10, wherein the grinder (1) is adapted to feed the material that does not pass through the screen back to the feed opening (11).

- Claim 12: A method of comminuting material to be ground in a mill (1) with a grinding mechanism a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) is driven about an axis of rotation (R) in a grinding chamber, and wherein first the material to be ground fed through a feed opening (11) in the lower region of the grinding chamber, then being comminuted by interaction of the inner wall (2) of the grinding chamber and the grinding elements (5), while it transported from the feed opening (11), via the highest point of the grinding chamber to a discharge opening (13), and finally the material to be ground being discharged in a substantially radial direction through the discharge opening (13) located in the lower region of the grinding chamber, the discharge opening (13) being located in the lower region of the grinding chamber.
  (13) is sieve-free; and wherein the feed opening (11) and the discharge opening (13) are arranged at the same axial height with respect to the axis of rotation (R) of the rotor (3), and the comminution of the material to be ground takes place primarily between the grinding elements (3) and the inner wall of the grinding chamber (2); or wherein a forced feed (12) is provided, which feeds the material to be ground in the radial direction through the feed opening (11).

Auxiliary request 6:

- Claim 1: A mill (1) for comminuting material to be ground, in particular wood chips, with a grinding mechanism which has a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) can be driven about an axis of rotation (R) in a grinding chamber, wherein the inner wall (2) of the grinding chamber co-operates with the grinding elements (5) in order to comminute the material to be ground, and wherein the grinding chamber has a feed opening (11) and a discharge opening (13), which enable a substantially radial feed and discharge of material to be ground with respect to the axis of rotation (R), characterised in that the feed opening (11) and the discharge opening (13) are each arranged in the lower region of the grinding chamber, in that the feed opening (11), the highest point of the grinding chamber, and the discharge opening (13) are arranged sequentially on the circumference of the inner wall (2) of the grinding chamber in the direction of rotation (R) of the rotor (3), and in that the discharge opening (13) is sieve-free; wherein the feed opening (11) and the discharge opening (13) ordered at the same axial height with respect to the axis of rotation (R) of the rotor (3), and the comminution of the ground material is effected in the direction of rotation (R) of the rotor (3).

primarily between the grinding elements (3) and the inner wall of the grinding chamber (2).

- Claims 2 to 7: as auxiliary request 5

- Claim 8: Mill according to one of the preceding claims, wherein a forced feed (12) is provided, which feeds the material to be ground in radial direction through the feed opening (11).

- Claim 9: The mill according to claim 10, wherein the forced feed (12) is a screw conveyor.

- Claim 10: The mill according to any one of the preceding claims, wherein the inner wall (2) of the grinding chamber comprises a plurality of parallel ribs (10) ordered obliquely to the circumferential direction, which are arranged at an angle of 30 to 60 degrees to the circumferential direction, and in particular are arranged at an angle of approximately 42.5 degrees to the circumferential direction.

- Claim 11: The mill according to any one of the preceding claims, wherein a screen is provided at a distance from the discharge opening (13), which is designed to screen material discharged through the discharge opening (13).

- Claim 12: The grinder according to claim 11, wherein the grinder (1) is adapted to feed the material that does not pass through the screen back to the feed opening (11).

- Claim 13: A method for comminuting material to be ground in a mill (1) with a grinding mechanism a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) is driven about an axis of rotation (R) in a grinding chamber, and wherein first the material to be ground fed through a feed opening (11) in the lower region of the grinding chamber, then being comminuted by interaction of the inner wall (2) of the grinding chamber and the grinding elements (5), while it transported from the feed opening (11), via the highest point of the grinding chamber to a discharge opening (13), and finally the material to be ground being discharged in a substantially radial direction through the discharge opening (13) located in the lower region of the grinding chamber, the discharge opening (13) being located in the lower region of the grinding chamber.
  (13) is sieve-free; wherein the feed opening (11) and the discharge opening (13) are ordered at the same axial height with respect to the axis of rotation (R) of the rotor (3), and the comminution of the material to be ground takes place primarily between the grinding elements (3) and the inner wall of the grinding chamber (2).

Auxiliary request 7:

- Claim 1: Mill (1) for comminuting material to be ground, in particular wood chips, having a grinding mechanism which a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) rotates about an axis of rotation (R) in a

grinding chamber is drivable, wherein the inner wall (2) of the grinding chamber cooperates with the grinding elements (5) in order to comminute the material to be ground, and wherein the grinding chamber has a feed opening (11) and a discharge opening (13), which enable a substantially radial feed and discharge of material to be ground with respect to the axis of rotation (R), characterised in in that the feed opening (11) and the discharge opening (13) are each arranged in the lower region of the grinding chamber, in that the feed opening (11), the highest point of the grinding chamber, and the discharge opening (13) are arranged sequentially on the circumference of the inner wall (2) of the grinding chamber in the direction of rotation (R) of the rotor (3), and in that the discharge opening (13) is sieve-free; wherein a forced feed (12) is provided, which feeds the material to be ground in the radial direction through the feed opening (11).

- Claims 2 to 9: as granted

- Claim 10: The mill according to any one of the preceding claims, wherein the forced feed (12) is a screw conveyor.

- Claim 11: The mill according to any one of the preceding claims, wherein the inner wall (2) of the grinding chamber comprises a plurality of parallel ribs (10) ordered obliquely to the circumferential direction, which are arranged at an angle of 30 to 60 degrees to the circumferential direction, and in particular are arranged at an angle of approximately 42.5 degrees to the circumferential direction.

- Claim 12: The grinder according to any one of the preceding claims, wherein a screen is provided at a distance from the discharge opening (13), which is designed to screen material discharged through the discharge opening (13).

- Claim 13: The grinder according to claim 12, wherein the grinder (1) is adapted to feed the material that does not pass through the screen back to the feed opening (11).

- Claim 14: A method of comminuting material to be ground in a mill (1) with a grinding mechanism a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) is driven about an axis of rotation (R) in a grinding chamber, and wherein first the material to be ground fed through a feed opening (11) in the lower region of the grinding chamber, then being comminuted by interaction of the inner wall (2) of the grinding chamber and the grinding elements (5), while it transported from the feed opening (11), via the highest point of the grinding chamber to a discharge opening (13), and finally the material to be ground being discharged in a substantially radial direction through the discharge opening (13) located in the lower region of the grinding chamber, the discharge opening (13) being located in the lower region of the grinding chamber.

(13) is sieve-free, whereby a forced feed (12) is provided, which feeds the material to be ground in a radial direction through the feed opening (11).

Auxiliary request 8:

- Claim 1: A mill (1) for comminuting material to be ground, in particular wood chips, with a grinding mechanism which has a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) can be driven about an axis of rotation (R) in a grinding chamber, wherein the inner wall (2) of the grinding chamber co-operates with the grinding elements (5) in order to comminute the material to be ground, and wherein the grinding chamber has a feed opening (11) and a discharge opening (13), which enable a substantially radial feed and discharge of material to be ground with respect to the axis of rotation (R), characterised in that the feed opening (11) and the discharge opening (13) are each arranged in the lower region of the grinding chamber, in that the feed opening (11), the highest point of the grinding chamber, and the discharge opening (13) are arranged sequentially on the circumference of the inner wall (2) of the grinding chamber in the direction of rotation (R) of the rotor (3), and in that the discharge opening (13) is sieve-free; wherein a forced feed (12) is provided, which feeds the material to be ground in the radial direction through the feed opening (11), and wherein the forced feed (12) is a screw conveyor.

- Claims 2 to 9: as granted

- Claim 10: The mill according to any one of the preceding claims, wherein the inner wall (2) of the grinding chamber comprises a plurality of parallel ribs (10) ordered obliquely to the circumferential direction, which are arranged at an angle of 30 to 60 degrees to the circumferential direction, and in particular are arranged at an angle of approximately 42.5 degrees to the circumferential direction.

- Claim 11: The mill according to any one of the preceding claims, wherein a screen is provided at a distance from the discharge opening (13), which is designed to screen material discharged through the discharge opening (13).

- Claim 12: The grinder according to claim 11, wherein the grinder (1) is adapted to feed the material that does not pass through the screen back to the feed opening (11).

- Claim 13: A method for comminuting material to be ground in a mill (1) with a grinding mechanism a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) is driven about an axis of rotation (R) in a grinding chamber, and wherein first the material to be ground fed through a feed opening (11) in the lower region of the grinding chamber, then being comminuted by interaction of the inner wall (2) of the grinding chamber and the grinding elements (5), while it transported from the feed opening (11), via the highest point of the grinding chamber, to a discharge opening (13) and finally the material to be ground being conveyed in a substantially radial direction through the grinding elements (5) located in the lower region of the grinding chamber.

discharge opening (13) located in the grinding chamber, whereby the discharge opening (13) is sieve-free, wherein a forced feed (12) is provided, which feeds the material to be ground in the radial direction through the feed opening (11), and wherein the forced feed (12) is a screw conveyor.

Auxiliary request 9:

- Claim 1: A mill (1) for comminuting material to be ground, in particular wood chips, with a grinding mechanism which has a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) can be driven about an axis of rotation (R) in a grinding chamber, wherein the inner wall (2) of the grinding chamber co-operates with the grinding elements (5) in order to comminute the material to be ground, and wherein the grinding chamber has a feed opening (11) and a discharge opening (13), which enable a substantially radial feed and discharge of material to be ground with respect to the axis of rotation (R), characterised in that the feed opening (11) and the discharge opening (13) are each ordered in the lower region of the grinding chamber, in that the feed opening (11), the highest point of the grinding chamber, and the discharge opening (13) are arranged sequentially on the circumference of the inner wall (2) of the grinding chamber in the direction of rotation (R) of the rotor (3), and in that the discharge opening (13) is sieve-free, wherein the feed opening (11) and the discharge opening (13) are arranged at the same axial height relative to the axis of rotation (R) of the rotor (3), and wherein the inner wall (2) of the grinding chamber has a plurality of parallel ribs (10) which are ordered at an angle of 30 to 60 degrees relative to the circumferential direction.

- Claim 2: as granted

- Claim 3: Mill according to any one of the preceding claims, wherein the discharge opening (13) is ordered at the essentially lowest point of the grinding chamber.

- Claim 4: The mill according to any one of the preceding claims, wherein the angle about the axis of rotation (R) from the feed opening (11) to the discharge opening (13) in the direction of rotation is more than 270 degrees.

- Claim 5: Mill according to one of the preceding claims, wherein the comminution of the material to be ground takes place exclusively between the grinding elements (5) and the inner wall (2) of the grinding chamber.

- Claim 6: Mill according to one of the preceding claims, wherein the grinding chamber has only one feed opening (11) and only one discharge opening (13).

- Claim 7: Mill according to one of the preceding claims, wherein the mill (1) is designed such that almost the entire ground material or at least the predominant part

of the ground material leaves the grinding chamber through the discharge opening (13) before a full cycle is completed.

- Claim 8: Mill according to any one of the preceding claims, wherein the grinding elements (5) are each rotatably mounted on an axle (6) which extends in the axial direction and at a radial distance from the axis of rotation (R) of the rotor (3).

- Claim 9: Mill according to one of the preceding claims, wherein a forced feed (12) is provided, which feeds the material to be ground in radial direction through the feed opening (11).

- Claim 10: The mill according to claim 9, wherein the forced feed (12) is a screw conveyor.

- Claim 11: Mill according to any one of the preceding claims, wherein the obliquely arranged ribs (10) are ordered at an angle of approximately 42.5 degrees to the circumferential direction.

- Claim 12: The grinder according to any one of the preceding claims, wherein a screen is provided at a distance from the discharge opening (13), which is designed to screen material discharged through the discharge opening (13).

- Claim 13: The grinder according to claim 12, wherein the grinder (1) is adapted to feed the material that does not pass through the screen back to the feed opening (11)

- Claim 14: A method of comminuting material to be ground in a mill (1) having a grinding mechanism a rotor (3) with a plurality of grinding elements (5), wherein the rotor (3) is driven about an axis of rotation (R) in a grinding chamber, and wherein first the material to be ground fed through a feed opening (11) in the lower region of the grinding chamber, then being comminuted by interaction of the inner wall (2) of the grinding chamber and the grinding elements (5), while it transported from the feed opening (11), via the highest point of the grinding chamber to a discharge opening (13), and finally the material to be ground being discharged in a substantially radial direction through the discharge opening (13) located in the lower region of the grinding chamber, the discharge opening (13) being located in the lower region of the grinding chamber.
  (13) is sieve-free, wherein the feed opening (11) and the discharge opening (13) arranged at the same axial height relative to the axis of rotation (R) of the rotor (3), and wherein the inner wall (2) of the grinding chamber has a plurality of parallel ribs (10) which ordered at an angle of 30 to 60 degrees to the circumferential direction.

FACTUAL AND LEGAL POINTS OF CONTENTION

A. Action for infringement

The plaintiff believes that the contested embodiment fulfils all the features of the patent in suit. In particular, the contested embodiment is sieve-free within the meaning of the patent in suit. A sieve is to be understood as a component which consists of a uniformly perforated material or of a net-like or grid-like mesh and which is functionally suitable for separating smaller components of a substance from larger components. Measured against this, the longitudinal bars which the contested embodiment has in the area of the discharge opening are not a sieve. It clear from the defendant's own advertising material that the material to be ground, which is fed to the contested embodiment, is generally significantly shorter than the distance between the longitudinal bars. Accordingly, the longitudinal bars are not able to sieve the material to be ground in view of the existing distances. This had been confirmed in tests carried out by the plaintiff. Therefore, the patent in suit is infringed by the contested embodiment both directly (claim 1) and indirectly (claim 15). With this infringement action, the plaintiff is asserting claims for injunctive relief, recall, removal from the distribution channels, destruction, information, publication and damages against the defendant on the basis of both infringement alternatives.

According to the defendant, the contested embodiment has a sieve. The longitudinal bars of the contested embodiment form a so-called "bar sieve", which is often used in agriculture. "bar sieve", as is often used in agriculture. This bar screen is suitable for separating and sorting the wood chips depending on their size. Therefore, the contested embodiment makes neither direct nor indirect use of the teaching of the patent in suit.

B. Action for annulment

The defendant asserts the following grounds for invalidity in respect of the patent in suit:

- lack of patentability,
- lack of feasibility.

In connection with the attack on the patentability of the patent in suit, the defendant relies on the following citations:

D2:	US 7 004 412 B2	Veröffentlichungsdatum (VD): 28.02.2006	
D3:	DE 34 14 567 A1	VD: 24.10.1985	
D4:	DE 915 520 C	VD: 22.07.1954	
D5:	US 4 037 799 A	VD: 26.07.1977	
D6:	EP 1 195 201 A1	VD: 10.04.2002	
D7:	US 5 655 720 A	VD: 12.08.1997	
D8:	DE 30 20 955 A1	VD: 10.12.1981	im SP zitiert
D9:	EP 0 164 489 A2	VD: 18.12.1985	im SP zitiert
D10:	US 3 966 126 A	VD: 29.06.1976	
D11:	EP 0 053 755 B1	VD: 30.07.1986	
D12:	US 7 775 468 B2	VD: 17.08.2010	

The attack on the novelty of the patent in suit is based on the following citations: D3, D12, D6, D10, D11 (the latter citation only with regard to claim 15 of the patent in suit).

The plaintiff defends the patent in suit in the granted version, alternatively in the versions of the auxiliary requests.

In order to avoid repetition, reference is made to the entire contents of the file with regard to the parties' submissions.

REASONS FOR THE DECISION:

The action for revocation is admissible and well-founded to the extent last pursued after the partial revocation. Claims 1 and 15 of the patent in suit are not eligible for protection either in the version granted or in the versions defended by the plaintiff in the alternative.

In view of the lack of protectability of claims 1 and 15, the admissible infringement action is unfounded without the need for a judicial review of the infringement allegation.

A. Interpretation of the patent in suit

I. The teaching of the patent in suit relates to a mill for comminuting ground material, in particular wood chips, and to a process which can be used in such a mill.

Mills are known from the state of the art that have a rotor with a large number of grinding elements, whereby the rotor can be driven around an axis of rotation in a grinding chamber. The grinding elements interact with the inner wall of the grinding chamber in order to crush the material to be ground. The grinding chamber has an inlet and an outlet opening that allow the material to be ground to be allocated and discharged.

To explain this prior art, the patent in suit DE 30 20 955 A1 (Annex K 7 = Annex D8) as an example in paragraph [0002]. There, the grinding chamber is designed as a drum. The feed opening is provided at the highest point of the drum. Its inner wall is formed alternately by grinding tracks and sieve tracks. The material to be ground is thus ground both on the grinding tracks and on the sieve tracks, with the openings in the sieve tracks forming a large number of discharge openings.

Against the background of the latter prior art, which is not expressly criticised, the patent in suit formulates the task of "providing a mill for comminution of ground material which has an increased efficiency and enables a high throughput of ground material in a short time" (paragraph [0004]).

As a solution, the patent in suit proposes a mill in which the material to be ground travels a "relatively long path" (paragraph [0005]) on a circular path from the feed opening via the highest point of the grinding chamber to the discharge opening. This "relatively long path" is made possible by the fact that the feed opening, the highest point of the grinding chamber and the discharge opening are ordered sequentially on the circumference of the inner wall of the grinding chamber in the direction of rotation of the rotor, with both the feed opening and the discharge opening each being located in the lower region of the grinding chamber.

According to the description of the patent in suit, this "relatively long path" enables the material to be ground to the desired size as soon as it reaches the discharge opening (for the first time).

is achieved. Therefore, the discharge opening of the mill according to the invention can be designed without the sieve commonly used in the prior art, so that the risk of clogging of the discharge opening associated with the sieve is eliminated (see paragraph [0005] for the whole).

The details of the design of the mill according to the invention can be seen from device claim 1, which can be structured as follows.

1a) *Mühle (1) zur Zerkleinerung von Mahlgut, insbesondere von Holzhackschnitzeln,*

1b) *mit einem **Mahlwerk**, das einen **Rotor** (3) mit einer Vielzahl von **Mahlelementen** (5) aufweist, wobei der Rotor (3) um eine Rotationsachse (R) in einem **Mahlraum** antreibbar ist,*

1c) *wobei die Innenwand (2) des Mahlraums mit den Mahlelementen (5) zusammenwirkt, um das Mahlgut zu zerkleinern, und*

1d) *wobei der Mahlraum eine **Zuführöffnung** (11) und eine **Abführöffnung** (13) aufweist, die eine bezüglich der Rotationsachse (R) im Wesentlichen radiale Zuführung und Abführung von Mahlgut ermöglichen,*
dadurch gekennzeichnet, dass

1e) *die Zuführöffnung (11) und die Abführöffnung (13) jeweils im unteren Bereich des Mahlraums angeordnet sind,*

1f) *dass die Zuführöffnung (11), der höchste Punkt des Mahlraums, und die Abführöffnung (13) am Umfang der Innenwand (2) des Mahlraums in Rotationsrichtung (R) des Rotors (3) sequentiell angeordnet sind, und*

1g) *dass die Abführöffnung (13) siebfrei ist.*

The parallel process claim 15 can be structured as follows:

15a) *Verfahren zur Zerkleinerung von Mahlgut in einer Mühle (1)*

15b) *mit einem **Mahlwerk**, das einen **Rotor** (3) mit einer Vielzahl von **Mahlelementen** (5) aufweist, wobei der Rotor (3) um eine Rotationsachse (R) in einem **Mahlraum** angetrieben wird, und*

15c) *wobei zunächst das Mahlgut durch eine **Zuführöffnung** (11) im unteren Bereich des Mahlraums zugeführt wird,*

15d) *dann durch Zusammenwirkung der Innenwand (2) des Mahlraums und der Mahlelemente (5) zerkleinert wird,*

15e) *während es von der Zuführöffnung (11), über den höchsten Punkt des Mahlraums zu einer **Abführöffnung** (13) transportiert wird, und*

15f) *wobei schließlich das Mahlgut in im Wesentlichen radialer Richtung durch die im unteren Bereich des Mahlraums gelegene Abführöffnung (13) abgeführt wird,*

15g) *wobei die Abführöffnung (13) siebfrei ist.*

An embodiment of a mill according to the invention is shown in Figure 1 of the patent in suit in a side view:

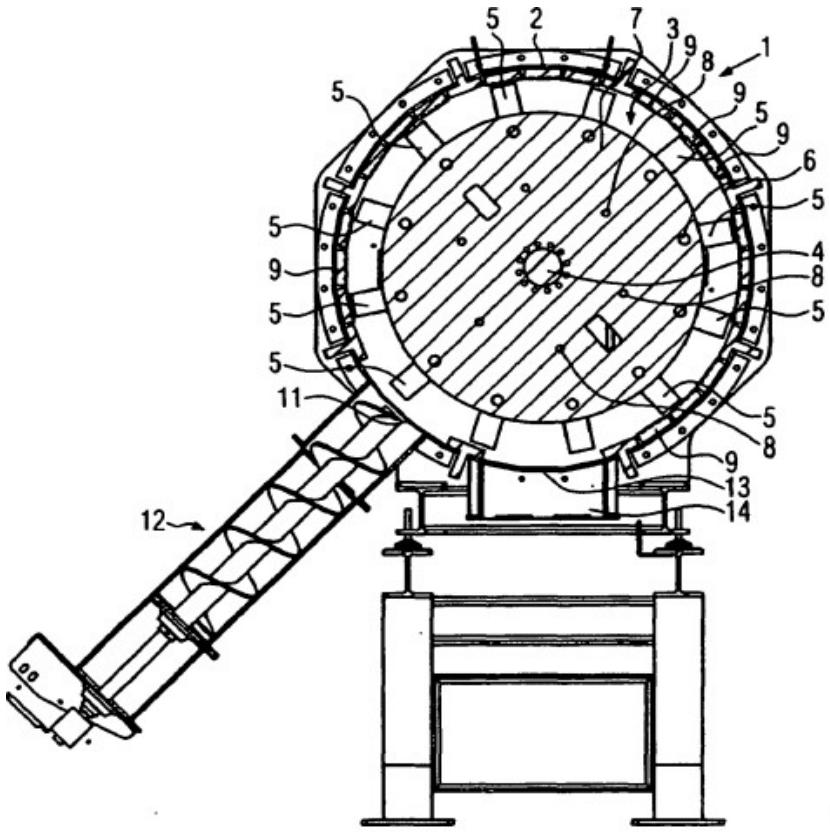


FIG. 1

There, the feed opening is labelled with the reference number 11 and the discharge opening with the reference number 13.

II. Both the examination of the legal status and the examination of the question of infringement equally always require the (uniform) interpretation of the patent in dispute.

The design must be carried out from the perspective of the authorised specialist. In the present case, this is an engineer specialising in mechanical engineering (Dipl.- Ing. (FH) or B. of Eng.) who has several years of professional experience in the development and design of mills for grinding material.

According to the case law of the Court of Appeal (Order of 26 February 2024, UPC_CoA_335/2023, GRUR 2024, 527 para. 73 et seq.), the patent claim is not only the starting point, but the decisive basis for determining the scope of protection of the respective patent under Art. 69 EPC in conjunction with the Protocol on the Interpretation of Art. 69 EPC.

However, the interpretation of the patent claim does not depend solely on its exact wording in the linguistic sense. Rather, the description and the drawings must always be taken into account as explanatory aids for the interpretation of the patent claim and not only be used to resolve any ambiguities in the patent claim.

However, this does not mean that the patent claim merely serves as a guideline and that its subject matter also extends to what, after examination of the description and the drawings, appears to be the patent proprietor's request for protection.

As a result, adequate protection for the patent holder should be combined with sufficient legal certainty for third parties.

III. Applying these general principles of interpretation laid down by the Court of Appeal, the features of the patent in suit which are of particular importance for the decision to be taken in the present case are to be understood as follows.

1. Features of the device claim 1

- Feature 1a: The feature contains a so-called indication of purpose in that it defines the protected mills in more detail to the effect that they are used for "comminution of ground material, in particular wood chips". Such indications of purpose are regularly aimed at defining the subject matter of the invention in such a way that it must not only fulfil the spatial and physical characteristics, but must also be usable for the stated purpose. In contrast, such an indication of purpose is not usually associated with a restriction of the scope of protection of the patent (see also local division Düsseldorf 30 March 2024, UPC_CFI_463/2023, GRUR-RS 2024, 16229 para. 66). Accordingly, the meaning of feature 1a consists solely

in that a mill that can be used for grinding material is protected. The term "ground material" must not be narrowed down to wood chips, which are only mentioned as an example in the wording of the feature *("...in particular..."*). Rather, the prior art cited in the description already shows that the term "ground material" is to be understood in a broader sense. For example, in paragraph [0003] of the description in connection with the EP 0 164 489 A2 mentioned there, it is expressly pointed out that this relates to a device for comminuting *"granular and/or fibrous"* material. The interpretation of the patent in suit must not fall short of this broad understanding of the material to be ground.

- Feature 1b: This feature provides, among other things, a rotor with a plurality of grinding elements. In particular, these may be knives, hammers, beaters or sawing elements or combinations of these components (paragraph [0020]).

- Feature 1c: According to this feature, the grinding elements must co-operate with the inner wall of the grinding chamber in order to comminute the material to be ground. However, a preferred embodiment of the patent in suit, which is not claimed in the main claim but only in dependent claim 12, is that the inner wall of the grinding chamber has ribs (10), so that the comminution of the material to be ground takes place between the grinding elements of the rotor and these ribs (see paragraphs [0012], [0023] ff. and [0042] ff.). The ribs can be located in separate grinding plates (10); however, they can also be integrally formed in the inner wall of the grinding chamber ([0043]).

- Feature 1d: According to this feature, the grinding chamber has an allocation opening and a discharge opening. Both the feed opening (11) and the discharge opening (13) are to be understood exclusively as the openings in the wall of the grinding chamber required for the feed and discharge respectively. However, the main claim does not deal with the feed and discharge devices adjoining these openings. Rather, only subclaims 10 and 11 contain the further teaching that the material to be ground is to be transported to the grinding chamber by means of a forced feed (12) - for example in the form of a screw conveyor. The same applies to the "removal" of the ground material, which is only mentioned in the description (see [0039]).

According to feature 1d of the device claim, both openings must be designed in such a way that they enable an essentially radial feed and discharge of ground material. Three things follow from this.

Firstly, no strict radial direction in the geometric sense is required. Rather, the term "*essentially*" requires a comparatively generous approach. Moreover, a strict geometric approach must also be ruled out because this only sense with regard to a line directed towards the centre of a circle. However, insofar as the term "radial" is used in connection with an opening of the circular line, it must be taken into account from the outset that such an opening opens up not only a distance, but rather a corridor with a certain width. Such a corridor cannot be directed towards the centre of the circle over its entire width.

Secondly, the feature does not require a radial feed and discharge of the entire regrind. Rather, the wording of the feature is limited to a feed and discharge of "ground material". It is therefore sufficient if the requirements of the feature are only fulfilled with regard to part of the regrind.

Thirdly, the openings must merely enable the essentially radial feed or discharge of regrind. However, the feature does not require that the material to be ground is actually transported through the openings in a radial direction. The direction of movement of the material to be ground is essentially determined by the feed and discharge devices adjacent to the openings, which, however, as has already been explained, are not the subject of the main claim.

- Features 1e and 1f: Both features are factually related in that they specify the spatial order of the feed opening, the highest point of the grinding chamber and the discharge opening - and thus also the "relatively long path" of the material to be ground. According to feature 1e, both the feed opening and the discharge opening must be ordered in the lower area of the grinding chamber. This means that the openings must be located in the two lower quadrants of the inner wall of the grinding chamber. This ensures that the inner wall of the two upper quadrants, at the boundary of which the highest point of the grinding chamber is located, is completely available for comminution of the material to be ground (paragraph [0005]).

- Feature 1g: According to this feature, the discharge opening must be sieve-free. This is a negative feature that requires the absence of a component - namely the sieve normally used in the prior art. As already explained, the technical effect intended by the feature is that the (sieve-free) discharge opening cannot be blocked by ground material.

2. Features of the method claim 15

Although the text of method claim 15 largely corresponds to the text of device claim 1, the wording differs with regard to three features.

- Feature 15a: Like the corresponding feature 1a, feature 15a also contains an indication of purpose in that the method according to the invention must be suitable for comminuting ground material. In contrast to the device claim, however, wood chips are not mentioned here.

- Feature 15c: This feature relates exclusively to the feed of the ground material. In contrast to the corresponding feature 1d, however, it does not contain any specifications for the direction of the grinding process.

feed. In particular, no radial feed of the ground material through the feed opening is required. Feature 15c is accordingly broader than feature 1d.

- Feature 15f: This feature relates exclusively to the discharge of the ground material. In comparison with the corresponding feature 1d, however, it contains stricter specifications in two respects. Firstly, the discharge should actually take place in a radial direction instead of merely enabling it - as formulated in patent claim 1. Secondly, this applies to "*the ground material*", i.e. to the entire ground material that leaves the grinding chamber through the discharge opening.

B. Action for annulment

The action for annulment is successful in its entirety.

The patent in suit is not eligible for protection either in the granted version or in the form of the auxiliary requests. Accordingly, the patent in suit must be declared invalid in its entirety (Art. 65 (2) EPC in conjunction with Art. 138 (1) (a) EPC: ground for invalidity of lack of patentability).

I. Lack of protectability of the patent in suit in the granted version

With regard to the assessment of the protectability of the patent in suit as granted, a distinction must be made between device claim 1 and method claim 15.

1. Device claim 1

a) In the opinion of the PANEL, novelty must already be denied with regard to device claim 1.
All features of device claim 1 are directly and unambiguously known from publication D3 (DE 34 14 567 A1). Application D3 was filed on 17 April 1984 and published on 24 October 1985. It thus belongs to the relevant prior art under Article 54(2) EPC.

aa) D3 relates to an impact cutting mill which *is suitable* for comminuting "*a wide variety of materials*" (page 13, 1st paragraph, line 2). Feature 1a of the patent in suit is thus directly and unambiguously disclosed in D3 in the interpretation explained above. This is because it refers in a general sense to a mill for "comminution of ground material", without specifying particular comminution methods. The skilled person therefore recognises that the beater-cutter mill is used for comminution. It is irrelevant in this context that in the further course of the quoted paragraph (lines 4 ff.) a comminution object is specifically mentioned, namely pulp hygiene articles. On the one hand, it is expressly clarified in this paragraph that the pulp hygiene articles are merely exemplary comminution object (*"...in particular, but by no means exclusively* ..."). On the other handat the beginning of the description (page 5, 2nd paragraph, lines 11 ff.) hammer mills

which refer to a very wide range of shredding objects (".... *Materials of the most varied types* ..."). Among other things, wood shavings are also mentioned there as an example. It is true that the above paragraph primarily concerns the description of the prior art. However, the description expressly refers to this prior art in the further course to explain the invention there (see page 6, last paragraph, lines 27 ff.: "*The present invention is therefore intended to provide an impact cutting mill of the type mentioned at receipt for comminuting materials,* ...").

bb) It is undisputed that the mill according to D3 has a grinding mechanism comprising a rotor (1) with a plurality of grinding elements designated as beaters (3), the rotor (1) being drivable about an axis of rotation (2) in a grinding chamber. Thus, feature 1b of the patent in suit is also previously known from publication D3.

cc) Contrary to the plaintiff's view, feature 1c of the patent in suit is also disclosed in D3. It is true that the plaintiff correctly points out in the starting point that the comminution of the materials in D3 takes place by interaction of the beaters (3) with tearing and/or cutting elements (9). These can - as shown for example in the two figures 3 and 8 of the D3 reproduced below - be attached to the inner wall of the grinding chamber.

Fig. 3

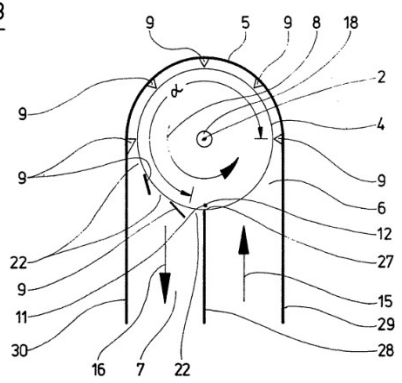
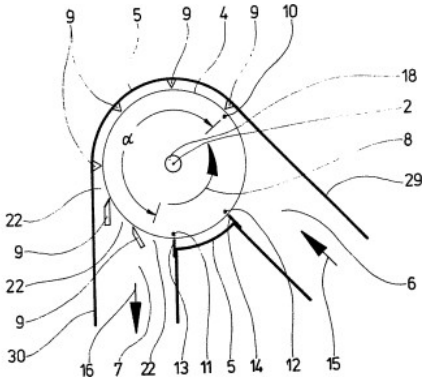


Fig. 8



In both figures, the tearing and/or cutting elements (9) are components of the inner wall of the grinding chamber - regardless of the specific way in which they are attached - with the result that the inner wall of the D3 is not "smooth".

However, the patent in suit does not require the inner wall to be "smooth". The patent in suit leaves it to the discretion of the skilled person how the grinding elements and the inner wall interact in order to effect comminution. There are no specifications that the inner wall must be as smooth as possible, nor are there any instructions to provide the inner wall with any structures whatsoever that are conducive to comminution. The skilled person is therefore not restricted in any way as to how the inner wall is to be designed. For example, as shown in a preferred embodiment of the patent in suit, the skilled person can provide the inner wall of the grinding chamber with ribs (10) which are either in separate grinding plates (10)

or integrally formed in the inner wall of the grinding chamber. In this case, the comminution of the material to be ground is thus effected - as in the case of the D3 - by partial regions of the inner wall which are raised in the radial direction in relation to the other regions of the inner wall. However, claim 1 does not specify whether such structures are to be used or not.

dd) Feature 1d of the patent in suit is also disclosed in D3.

It is undisputed that the mill according to D3 a feed opening and a discharge opening.

Contrary to the applicant's view, however, these openings also enable an essentially radial feed and discharge of material to be ground with respect to the axis of rotation within the meaning of the feature. This applies in any case if the mill is designed in accordance with Figure 3 of D3 reproduced above. In this embodiment, the material to be ground is both fed vertically and discharged vertically (see the arrows in the feed and discharge channels). At least in the areas of the feed and discharge channels that are directly adjacent to the partition wall between the channels, the transport of ground material is thus directed almost geometrically towards or away from the centre of the circle. This already discloses feature 1d), since the feature - as already explained above in the context of the design - only requires a "substantially" radial feed and discharge of the entire ground material. From this wording alone, the person skilled in the art recognises that exact mathematical ratios are not important. Moreover, he recognises that from a technical-functional point of view, no exact feed with regard to the axis can be addressed anyway, because the decisive factor for achieving the comminution function is how the material to be comminuted is fed with regard to the components interacting during the comminution. However, it is not the axis of rotation (viewed as a point) that is decisive here, but the rotating surface area of the rotor defined by it, which curves cylindrically over the distance of the openings. For this reason, some parts of the material to be ground that are fed into the rotor may possibly hit it radially in relation to the axis of rotation in an ideal geometric sense, whereas other material to be ground may already hit it at a feed angle that would have to be tangential from a mathematical-exact point of view. Rather, according to the wording of the feature, it is therefore sufficient if its requirements are only fulfilled by a part of the material to be ground. It should therefore only be pointed out as a supplement that even for the part of the ground material in the centre of the feed and discharge channels, an "essentially" radial feed and discharge must still be assumed. A non-characteristic tangential feed and discharge therefore only takes place in the areas of the feed and discharge channels that face away from the partition wall between the channels.

Irrespective of all this, it is of course irrelevant in the context of device claim 1 in any case in which direction the material to be ground actually flows through the openings. Rather, the only decisive factor is that the openings allow an "essentially" radial passage of material to be ground. This mere possibility is readily given with regard to the openings of Figure 3.

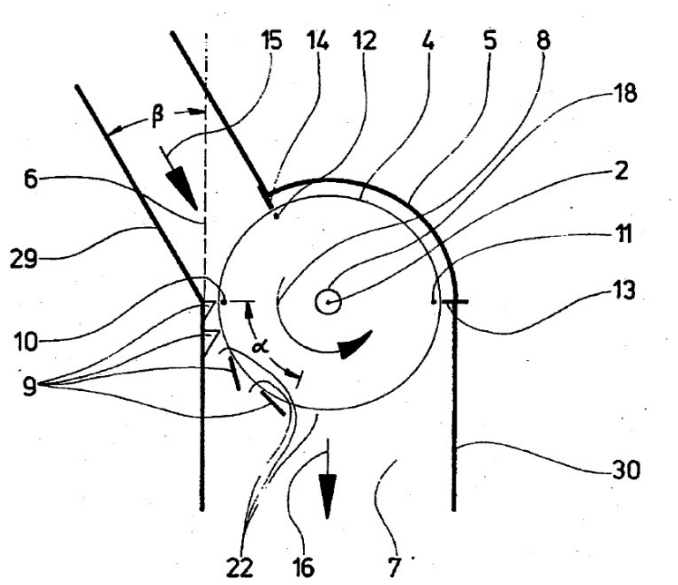
ee) Features 1e, 1f and 1g are also disclosed in D3. For example, Figure 3 shows a mill in which both the feed opening and the discharge opening are ordered in the two lower quadrants. Furthermore, the round arrow shows that the feed opening, the highest point of the grinding chamber and the discharge opening are ordered sequentially in the direction of rotation. Finally, a sieve is expressly omitted in the area of the discharge opening (page 6, 2nd paragraph, lines 33 and 34 and page 7, 1st paragraph, lines 15 to 17).

b) If one were to disagree with the interpretation of feature 1d) by the court, but instead require a radial feed and discharge of the entire ground material through the corresponding openings, D3 would not be prejudicial to novelty. However, in this case there would be a lack of inventive step, since feature 1d would then result from D3 in a manner obvious to a person skilled in the art.

Thus, the skilled person is first taught by D3 that "*the inlet and outlet openings* can *be provided in practically any order around the circumference of the rotor in the housing in the direction of rotation of the rotor*" (page 11, 3rd paragraph, lines 19 to 21). This raises the question for the person skilled in the art of how the inlet and outlet ducts connected to the openings should be aligned in a meaningful way. In this respect, however, the D3 opens up several options for the skilled person, which are in any case within his general scope of expertise.

On the one hand, D3 contains corresponding examples of embodiments that show inlet ducts whose orientation is described as "tangential" in the description (page 19, last paragraph, line 36). Figures 1, 3 and 6 to 9, for example, belong here. However, according to the language used in D3, a tangential inlet channel already exists if it opens tangentially into the circular wall of the grinding chamber at the end of the inlet opening that is downstream from the direction of rotation of the rotor.

On the other hand, however, D3 also contains an embodiment example - namely Figure 2 - which shows a different orientation of the inlet channel. Here, the inlet channel opens into the wall of the grinding chamber at an acute angle β to the tangential direction.



The explanations in the description corresponding to Figure 2 (page 20, 1st paragraph, lines 1 ff.) expressly teach the skilled person that both the inlet channel and the outlet channel can be ordered on the housing not only tangentially, but also at an acute angle to the tangential direction. By definition, an acute angle comprises an angle range of more than 0° and less than 90°. If an acute angle of approximately 90° is selected, the feed and discharge of the ground material is, of course, almost radial. It is therefore obvious for the skilled person to also take up this embodiment as a suggestion and, in his optimisation experiments, to modify the embodiments explained above, for example those of Figures 3 and 8, as desired or as required, so that the inlet opening and the outlet opening are also arranged there at an acute angle to the tangential direction and thus to implement a design form that is within his immediate reach as a skilled person. Furthermore, Figure 10 of publication D3 expressly shows a radially opening inlet channel. Feature 1d) is thus readily apparent to the skilled person.

2. Procedural claim 15

Unlike device claim 1, method claim 15 is not affected by D3 in a manner detrimental to novelty, since feature 15f is not disclosed in D3. As has already been explained in connection with the claim interpretation, feature 15f is to be understood in such a way that the entire material to be ground is passed through the discharge opening in a substantially radial direction. Such a process step is not disclosed in D3, in particular in Figure 3 thereof.

Nevertheless, process claim 15 is ultimately not patentable because it is not on any inventive step. In this respect, reference can be made in full to the above explanations under
1.b) to the parallel feature 1d. The orientation of the discharge opening in the sense referred to by feature 15f and explained above lies to the same extent in

his general expertise and, in addition, the material to be ground is discharged in a direction that can be described as essentially radially orientated anyway due to gravity.

II. Lack of protectability of the patent in suit in the form of the auxiliary requests

All of the claim versions defended by the plaintiff in the alternative also lack the necessary inventive step. The following statements on the device claim also apply analogously to the method claim without any restriction.

1. Auxiliary request 1

Auxiliary claim 1 merely contains a modification of sub-claim 6, in that the comminution now no longer takes place "exclusively", but only "primarily" between the grinding elements and the inner wall. In contrast, the independent claim 1 remains unchanged compared to the granted version, so that reference is made to the above reasoning on the granted version of the patent in suit. In view of the feature thus amended, it cannot be inferred from document D3 that the comminution of the material to be ground is to take place at a location other than between the tearing and/or cutting elements (9) and the beater. The comminution of the material to be ground thus also takes place in the D3 at least "primarily" between the grinding elements (beaters) and the inner wall of the grinding chamber, which also includes the tearing and/or cutting elements. Therefore, the modification cannot constitute novelty or inventive step.

2. Auxiliary requests 2 and 3

In the version according to auxiliary request 2, the following feature 1h is added to the end of claim 1 as granted:

1h	wherein a forced feed (12) is provided, which feeds the material to be ground through the feed opening (11).

In the version according to auxiliary request 3, claim 1 additionally contains the following feature 1i added after feature 1h:

1i	wherein the forced feed (12) is a screw conveyor.

According to feature 1h, the supply or feeding of the material to be ground into the feed opening, which is made possible according to feature 1e, takes place by means of a forced feed, for which purpose a device for forced feeding is provided in or on the mill. This device designed in such a way that it can positively transport the material to be ground to the feed opening and thus feed it to this opening.

According to paragraph [0021] of the patent in suit, the forced feed makes it possible to overcome the effect of gravity if the feed opening is ordered in a lower region of the grinding chamber. In paragraph [0022], the patent in suit mentions a screw conveyor as a possible embodiment for this purpose.

However, the subject-matter of claim 1 according to auxiliary claims 2 and 3 also obvious to a person skilled in the art from the content of publication D3, whereby the technical knowledge attributable to the person skilled in the art is documented by publications D5 or D7.

The question of feeding the material to be ground is not addressed in detail in the D3. Instead, the D3 simply states that "*the materials to be ground (15), which are indicated by an arrow in the figures, are fed to the rotor (1) via the inlet opening (6)*" (page 15, 3rd paragraph, lines 30 ff.). It is true that in those embodiments of the D3 that provide for a feed from above, a forced feed may not be immediately obvious to the person skilled in the art, since the feed can take place there by utilising gravity. However, if the feed takes place against the force of gravity (see Figures 3 and 8), the provision of a forced feed is absolutely necessary from the point of view of the skilled person in order to be able to convey the material to be ground into the grinding chamber. The feature 1h added to claim 1 in the version according to auxiliary request 2 can therefore, based on the content of D3, not constitute a novelty or an inventive step, since this feature is absolutely necessary for the embodiments of Figures 3 and 8 of D3, for example.

The screw conveyors claimed with feature 1i are devices customary in the art in the field of hammer mills, with which a forced feed is possible in this type of mills. This is demonstrated, for example, by publications D7 and D5, which each disclose mills in which the material to be ground is fed laterally or from below. A screw conveyor is provided there in each case. The additional feature 1i cannot therefore establish an inventive step either.

3. Auxiliary requests 4 to 8

In the version of auxiliary requests 4 to 8, the following features 1j, 1k and 1l are added to claim 1 in different "and" or "or" combinations. Features 1j, 1k and 1l read as follows:

1j	wherein the feed opening (11) and the discharge opening (13) are arranged at the same axial height with respect to the axis of rotation (R) of the rotor (3)
1k	the comminution of the ground material primarily between the grinding elements (3) and the inner wall of the grinding chamber (2)
1l	a forced feed (12) provided, which feeds the material to be ground in a radial direction through the feed opening (11).

The following applies in detail:

The following is added to claim 1 after auxiliary request 4:
the characteristic 1j or the characteristic 1k or the characteristic 1l
The three characteristics are therefore to be understood as three neighbouring alternatives.

The following is added to claim 1 after auxiliary request 5:
the characteristic 1j and the characteristic 1k or the characteristic 1l)
The claim thus claims two juxtaposed alternative variants. The first variant comprises features 1j and 1k, the second variant feature 1l.

Claim 1 according to auxiliary request 6 is added:
characteristic 1j and characteristic 1k
The claim thus claims an embodiment which includes both features. Only feature 1l is

added to claim 1 according to auxiliary request 7.

The following is added to claim 1 according to auxiliary request 8: feature 1l and feature 1i.

Features 1j to 1k are not suitable, either individually or in combination, to establish the inventive step of claim 1 in the form of auxiliary requests 4 to 8.

a) Feature 1j is already directly and clearly disclosed in D3. Thus, a preferred embodiment is described in D3, which consists of "*the inlet and outlet openings being ordered in alignment with each other*" (page 11, last paragraph, line33 f.). This means that the openings are necessarily ordered axially at the same height with respect to the axis of rotation of the rotor. The embodiments shown in Figures 3 and 8 are only characterised the fact that the position of the inlet and outlet openings has been changed around the circumference of the rotor. However, this has no influence on the axial position of the two openings in relation to the axis of rotation of the rotor. Accordingly, feature 1j is disclosed in D3.

b) The same applies to feature 1k. This is because it cannot be inferred from publication D3 that the comminution of the material to be ground takes place anywhere other than between the tearing and/or cutting elements.
(9) and the beater. The comminution of the material to be ground thus also takes place in the D3 at least primarily between the grinding elements (beaters) and the inner wall of the grinding chamber, which also includes the tearing and/or cutting elements (see above).

c) Finally, feature 1l cannot establish the necessary inventive step either. The fact that the forced feed the material to be ground "in a radial direction" through the feed opening is a matter of course for a person skilled in the art with an obvious feed opening as in Fig. 3, which is orientated in a radial direction, as explained above with regard to the main claim.

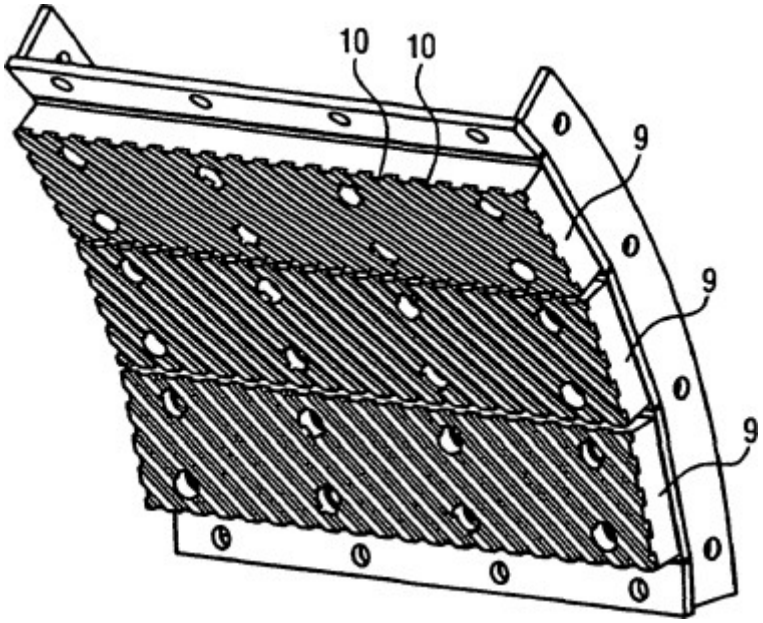
4. Auxiliary request 9

In the version of auxiliary request 9, feature 1j and the following feature 1m are added to the end of claim 1 as granted:

1m	wherein the inner wall (2) of the grinding chamber has a plurality of parallel ribs (10) which are ordered obliquely to the circumferential direction and which are arranged at an angle of 30 to 60 degrees to the circumferential direction

In the absence of an express definition in the description of the patent in suit, the term "rib" used in feature 1m is to be understood very broadly. This includes any elongated region of the inner wall (or of a grinding plate) which stands out from "lower" regions of the inner wall in the direction of the rotor axis and is suitable for fulfilling the functions mentioned in the description of the patent in suit, namely contributing to the comminution of the material to be ground [0012] and to the self-cleaning of any grinding plates [0042].

A possible embodiment of the ribs is shown in Figure 3 of the patent in suit, reproduced below, with reference number 10.



However, the term "rib" is by no means limited to the preferred embodiment shown in Figure 3. In particular, the ribs do not have to extend across the entire width of the inner wall without interruptions, as shown in Figure 3. Rather, considerably shorter structures that are separated from each other by clear interruptions are also conceivable.

Based on this understanding, feature 1m is also not based on any inventive step. The D3 already conveys to the skilled person that "*the choice of the tearing and/or cutting elements 9 and their order in relation to each other and in relation to the rotor ..... must be coordinated*" (page 12, 2nd paragraph, lines 21 to 26). However, since no specific information on the orientation of the tearing and/or cutting elements in relation to the circumferential direction can be found in D3, this is an immediate reason for the person skilled in the art to refer to orders of tearing and/or cutting elements known to him. In this context, publication D9 shows the person skilled in the art as a familiar design, especially for a material to be ground such as fibrous wood (see page 1), to provide several parallel strips or ribs on the inner wall of the grinding chamber, arranged at an angle to the circumferential direction, which, as shown in Figures 9c and 9d, are ordered at an angle of approximately 45 degrees to the circumferential direction of the rotor (see also page 12, lines 11 to 23). This corresponds to the specifications of feature 1m. Therefore, based on the teaching of publication D3, feature 1m cannot constitute an inventive step.

C. Action for infringement

Since the patent in suit is not protectable to the extent relevant for the examination of the infringement allegation, the infringement action must be dismissed without further ado.

DECISION

1. The European patent EP 2 548 648 is declared invalid in its entirety with effect for the states of Germany, the Netherlands, Austria, Belgium, Bulgaria, Denmark, Finland, France, Italy, Portugal, Romania, Sweden and Slovenia.

2. The action for infringement is dismissed.

3. Orders the plaintiff to pay ¾ and the defendant to pay ¼ of the costs of the proceedings.

NAMES AND SIGNATURES

Presiding judge Tochtermann	Peter Michael Dr. Tochtermann Digitally signed by Peter Michael Dr Tochtermann Date: 2025.01.30 11:06:18 +01'00'
Judge-rapporteur Kircher	Holger KIRCHER Digitally signed by Holger KIRCHER Date: 2025.01.30 10:47:54 +01'00'
Legally qualified judge Kokke	Margot Elsa KOKKE Digitally signed by Margot Elsa KOKKE Date: 2025.01.30 14:26:20 +01'00'
Technically qualified judge Geier	Nicolai VULTURE Digitally signed by Nicolai GEIER Date: 2025.01.30 11:31:32 +01'00'
For the Deputy Registrar: Clerk Kranz	ANDREAS. MICHAEL wreath Digitally signed from ANDREAS MICHAEL Kranz Date: 2025.01.30 17:01:32 +01'00'

INFORMATION ON THE APPOINTMENT:

An appeal against this decision may be lodged with the Court of Appeal by any party whose applications have been wholly or partially unsuccessful within two months of service of the decision (Art. 73(1) UPCA, R. 220.1(a), 224.1(a) RoP).

INFORMATION ON ENFORCEMENT (ART. 82 EPGÜ, ART. 37 ABS. 2 UPC AGREEMENT, R. 118.8, 158.2, 354, 355.4 ROP):

A certified copy of the enforceable decision is issued by the Deputy Registrar on application by the enforcing party, R. 69 RegR.

Details of the
UPC case number: UPC_CFI_340/2023
Action for infringement ACT_576606/2023 and action for annulment CC_7594/2024

Peter Michael Dr. Tochtermann

Digitally signed by Peter Michael Dr Tochtermann
Date: 2025.01.31 08:10:19 +01'00'