



Machine translation

**FEDERAL SUPREME COURT**  
**ON BEHALF OF THE PEOPLE**  
**JUDGMENT**

X ZR 17/21

Published on:  
March 14, 2023  
Schönthal  
Clerk of the Court  
as Clerk of the  
Registry

in the patent nullity case

The X. Civil Senate of the Federal Court of Justice ruled on the oral proceedings on March 14, 2023 by the Presiding Judge Dr. Bacher, Judges Hoffmann and Dr. Deichfuß, and Judges Dr. Kober-Dehm and Dr. Rombach:

On appeal, the judgment of the 5th Senate (Nullity Senate) of the Federal Patent Court of November 11, 2020, is amended.

The complaint is dismissed.

Orders the plaintiff to pay the costs.

By law

Facts:

1 The defendant is the owner of European patent 2 310 180 (patent in suit), which was granted with effect for the Federal Republic of Germany, was filed on May 14, 2009, claiming a Swedish priority of May 16, 2008, and relates to a donor part manufactured by two-component injection molding.

2 Claim 1, to which thirteen further claims are referred back, reads in procedural language:

Dispenser part comprising at least two component parts (17, 18; 31, 32; 41 a,42a; 41b, 42b; 41c, 42c; 41 d, 42d) each joined by a seam (21; 33; 43a, 43b, 43c, 43d), said dispenser part (20) comprising a first injection moulded plastic component part (17; 31; 41a) having an associated first mating surface; a second injection moulded plastic component part (18; 32; 42a) having an associated second mating surface; and a seam (21; 33; 43a) formed by said first mating surface and said second mating surface during injection moulding for joining said first component part and said second component part (17, 18; 31, 32; 41a, 42a; 41b, 42b; 41c, 42c; 41d; 42d) to define a dispenser part (20), characterised in that an edge portion (44b, 44c, 44d) an one dispenser part extends past a transverse extension of the seam (43b; 43c; 43d) such that the resulting seam (21; 33; 43a; 43b; 43d) has an Impact strength equal to or greater than the strength of at least one of said first and second moulded plastic component parts (17, 18; 31, 32; 41a, 42a; 41b, 42b; 41c, 42c; 41d; 42d) adjacent the seam (21; 33; 43a; 43b; 43c).

3 The plaintiff argued that the subject matter of the patent in suit was not patentable and that the invention was not disclosed in such a way that a person skilled in the art could carry it out. The defendant has defended the patent in suit as granted and, in the alternative, in five amended versions.

4 The Patent Court has declared the patent in suit null and void. This is opposed by the defendant's appeal, which continues to defend the patent in suit with its requests at first instance. The plaintiff opposes the appeal.

Reasons for Decision:

5           The admissible appeal is well-founded and leads to the dismissal of the  
complaint.

6           I.       The patent in suit relates to a dispenser part manufactured by two-  
component injection molding.

7           1.       According to the statements in the patent in suit, it may be desirable  
for various reasons to provide a dispenser part in which at least the outer surface,  
the shell or a comparable part is made of two similar or different plastics. For  
example, one section of the dispenser part could conceivably be transparent to  
facilitate checking the level of the consumable contained in the dispenser. A  
second section could be opaque in design to conceal a dispensing mechanism  
and give the dispenser an aesthetically pleasing appearance (para. 2).

8           For the production of such a dispenser part, the first component is usually  
produced by injection molding in a first mold. It is then transferred to a second  
mold and joined there with a further component which is then injection molded.  
This can result in warpage of at least the first component and the seam,  
particularly in or near the areas of the side edges. The components are generally  
joined end-to-end; even with local reinforcements, the seam may lack sufficient  
stability to withstand the expected forces (Par. 3).

9           2.       Against this background, the patent in suit concerns the technical  
problem of providing a dispenser part which has low distortion and is of high  
strength at the seam.

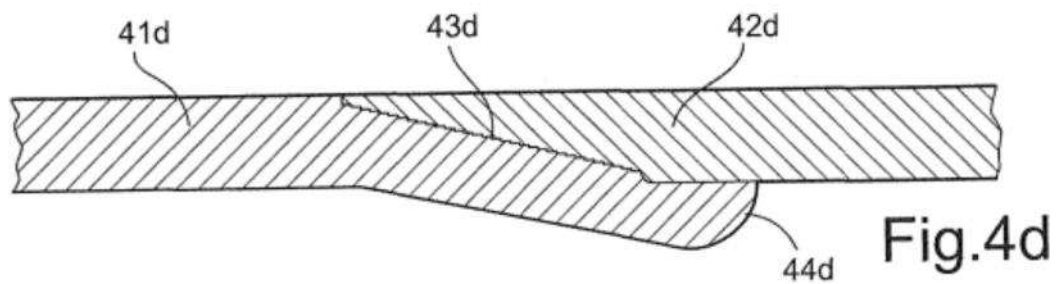
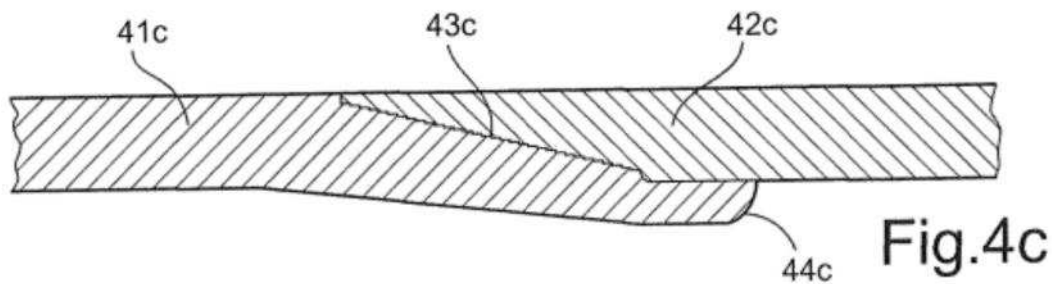
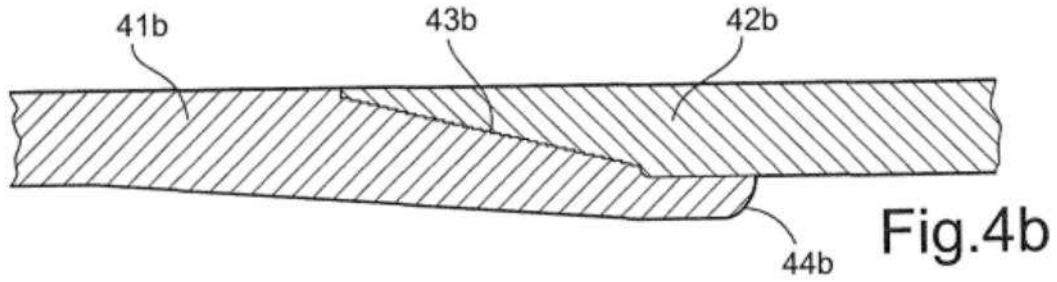
10           3.     To solve this, the patent in suit proposes in claim 1 a donor part, the features of which can be structured as follows (the deviating structure in the judgment at first instance is reproduced in square brackets):

1. The dispenser part (20) has at least two component parts (17, 18; 31, 32; 41a, 42a; 41b, 42b; 41c, 42c; 41d, 42d) [1; 1.1].
2. The first (17; 31; 41a; 41b; 41c; 41d) and second (18; 32; 42a; 42b; 42c; 42d) injection molded component parts.
  - a) each have a connecting surface [1.2, 1.3] and
  - b) are connected by a suture (21; 33; 43a; 43b; 43c; 43d) [1.1.1],
    - (1) formed by the first bonding surface and the second bonding surface during two-component injection molding for bonding the first component part and the second component part to define the dispenser part (20) [1.4];
    - (2) wherein an edge portion (44b, 44c, 44d) on a donor part extends beyond a transverse extent of the seam (43b; 43c; 43d) so that the resulting seam has an *impact strength* equal to or higher than the strength of at least one of the two molded plastic component parts adjacent to the seam [1.5].

11           4.     Some features require further discussion.

12           a)     As the Senate has already explained and provided more detailed reasons in connection with European patent 2 313 243, which claims the same priority date as the patent in suit, a dispenser part within the meaning of feature 1 must be a component that significantly shapes the structure of the dispenser housing; the same applies to a component part within the meaning of feature 2 (Federal Supreme Court (BGH), judgment of December 7, 2021 - X ZR 111/19, para. 12 et seq.).

- 13            Nothing else applies to the patent in suit, the description of which corresponds in large parts to that of the said patent and which uses the same terms in claim 1 in this respect.
- 14            b)     The seam joining the two component parts is characterized in feature group 2 b by its method of manufacture, its spatial extent and its stability.
- 15            aa)    According to feature 2 b (1), the seam must be formed during two-component injection molding to join the two component parts. The more detailed design of this manufacturing step is left to the person skilled in the art.
- 16            bb)    According to feature 2 b (2), in order to give the seam greater impact strength, an edge section extends beyond the transverse extent of the seam.
- 17            (1)    Examples of embodiments of this design are shown in Figures 4b, 4c, and 4d reproduced below.



18 In these embodiments, the edge portion is formed by a lip (44b, 44c and 44d) of a component part (41b, 41c, 41d) overlapping the rear surface of the second component part (42b, 42c, 42d) (paras. 65-68). The three examples differ with respect to the shape of this lip.

19 In all three embodiments, the overlap serves to conceal and reinforce the seam (par. 65 lines 27-29; par. 66 lines 42-44; par. 67 lines 57-58; par. 68 lines 6-7).

20 The transverse direction of the seam denotes the direction perpendicular to the front edge of the respective component part to which the seam connects (par. 14).

In the embodiments shown above, said edge is perpendicular to the plane of representation; the transverse direction is from left to right. The transverse extent of the seam corresponds to the area where the two component parts abut in the transverse direction or obliquely thereto. The lip or edge section (44b, 44c, 44d), on the other hand, rests on the rear surface of the second component part.

- 21 (2) Further embodiments are shown in Figures 12b and 12c reproduced below.

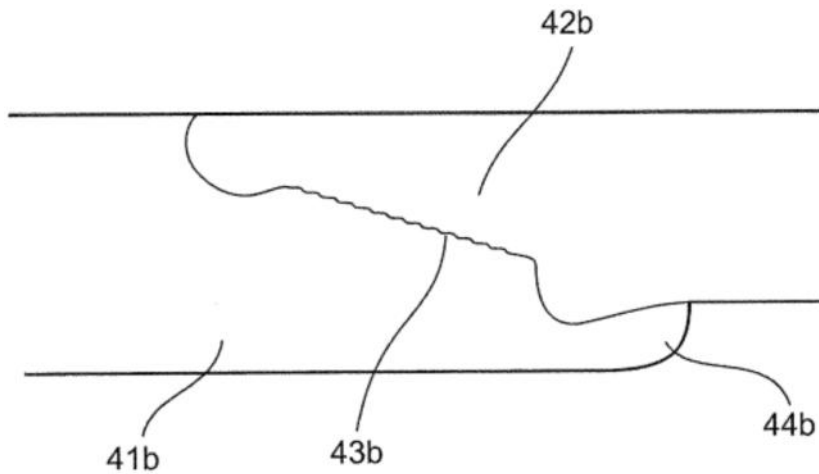


Fig.12b

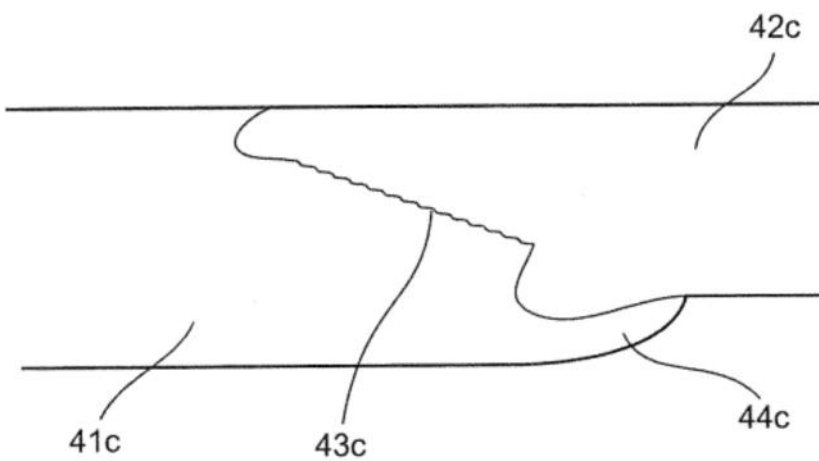


Fig.12c



22           These embodiments also serve to conceal and reinforce the seam (par. 79  
lines 42-43).

23           cc)    The impact strength of the seam to be achieved by this embodiment is  
specified in feature 2 b (2) not by an absolute value, but by the fact that it must be  
higher than the impact strength of at least one of the two adjacent component parts.  
Absolute values for the impact strength and a corresponding test method are given  
in claim 14.

24           dd)    Contrary to the opinion of the Patent Court, impact strength within the  
meaning of feature 2 b (2) is to be determined on the basis of an impact load, but  
not on the basis of bending tests.

25           This follows from the remarks in the description, according to which impact  
strength can be defined as the energy required to break a specimen by shock  
loading, for example in an impact test (para. 27). Despite the use of the word "may"  
and the reference made at the same point to the alternative terms "impact energy",  
"impact value", "impact resistance" and "energy absorption", it is sufficiently clear  
from the context that the description thus gives its own definition of the term impact  
strength.

26           The fact that, according to the teaching of the patent in suit, any given bending  
strength does not readily indicate the existence of impact strength according to  
the patent's own definition follows from the fact that several passages of the  
description also deal with bending strength determined by means of bending tests  
(paras. 34, 68, 87, Table 1), and that in connection with the embodiments  
according to Figures 4b, 4c and 4d, with reference to comparative bending and  
impact tests, only minor improvements in bending strength are reported, while a  
clear positive effect had been observed in impact tests (para. 68). In line with this,

information on impact strength is given in the usual unit of measurement for this according to the Patent Court (paras. 38, 80, 94), while the usual unit of measurement for bending strength is megapascals (paras. 34, 87, Table 1).

27        Against this background, the fact that impact strength and flexural strength show certain affinities and that the tests commonly used to determine these quantities are similar in some respects is not of decisive importance. The fact that the description of the patent in suit emphasizes the observed differences precisely with regard to embodiments with feature 2 b (2) in this respect indicates that the patent in suit distinguishes these two concepts.

28        II.        The Patent Court gave the following main reasons for its decision:

29        The subject-matter of claim 1 as granted was not based on inventive step. It was suggested to the person skilled in the art, a graduate engineer in mechanical engineering or plastics technology with a degree from a university of applied sciences or comparable degree and several years of professional experience in the product development of receptacles, who is skilled in the shaping of plastics and who consults a specialist in injection molding technology with experience in the field of materials testing of plastics, by the international patent application 2006/054965 (N4) and the Japanese patent application Sho 59-133029 (N6).

30        N4 discloses a dispenser for the output of paper towels provided as a roll with the features 1, 2 a, 2 b and 2 b (1). Feature 2 b (2) is not disclosed.

31        In designing the geometry of the joint of the dispenser part disclosed in N4, the skilled person was essentially guided by the requirements that the functionality and stability of a paper dispenser placed on the design, as well as by his expert knowledge of the design of the seam when gating two plastic components. The

skilled person is therefore also familiar with N6, which shows a seam produced by ultrasonic welding and a seam produced by two-component injection molding, each with high flexural strength. Since the skilled person does not envisage an external groove for a paper dispenser for reasons of contamination or hygiene, he would consider the welded joint disclosed in N6 for two-component injection molding. Such a joint by overlapping the butt joint, which is known to the skilled person and can be executed by him without difficulty in terms of injection molding technology, ensures that the butt joint is visually attractive on the visible side, has a gap-free surface and, in addition, has a sufficiently high strength. The skilled person can estimate the strength of an overlapping seam according to Figures 2 and 3 of N6 on the basis of the fundamentals of strength theory. In a rough estimate, doubling the thickness in the area of the seam reduces the stress load to a quarter. This would lead to the expectation that the seam would not fail either a standard bending test or an impact strength test. These parameters differ only with regard to the loading speed, so that the behavior of the material cannot be assessed differently in this respect.

32           The subject matter of auxiliary requests 1 to 3 was also not based on inventive step. The defense of the patent in suit in the versions of auxiliary requests 4 and 5 had to be rejected as being out of time.

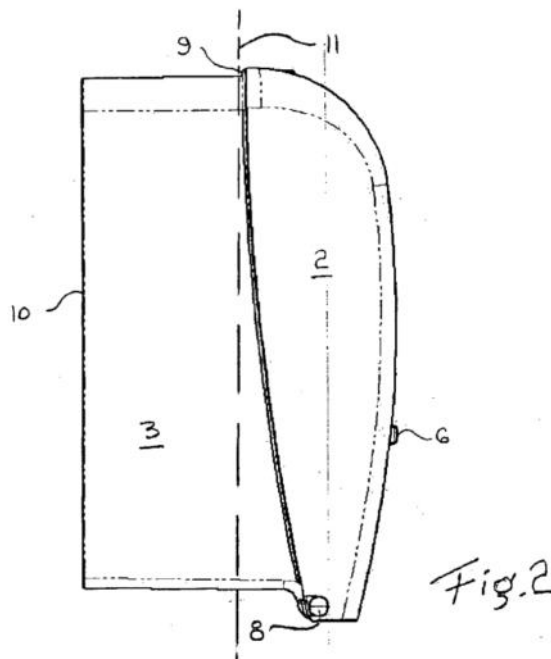
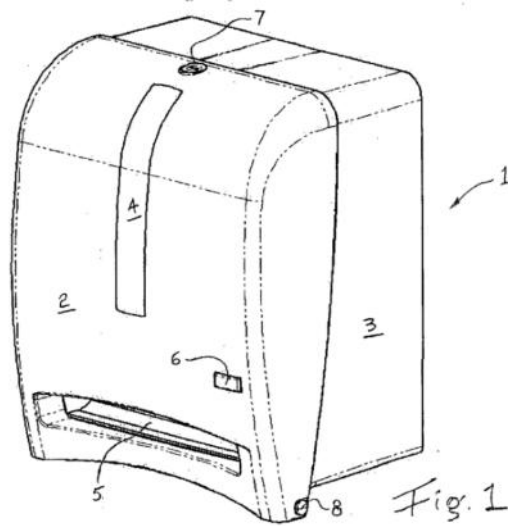
33           III.     This assessment does not withstand appellate review.

34           Contrary to the Patent Court's view, the subject matter of claim 1 as granted is not suggested by a combination of N4 and N6.

35           1.     The Patent Court correctly held that N4 does not fully disclose the subject matter of claim 1 as granted.

36 a) N4 discloses a dispenser for paper rolls.

37 An example of an embodiment is shown in perspective view in Figure 1 reproduced below and in side view in Figure 2.



38 The dispenser (1) comprises a body (3) and a cover (2).

39           The body (3) consists of a rear section with upper and lower surfaces, side surfaces and a rear mounting surface (10). It can at least partially accommodate a roll of paper to be placed in the dispenser and is suitable for mounting in a niche or on a wall (p. 3 lines 10-15; p. 7 line 20 to p. 8 line 4).

40           The cover (2) may have a recessed transparent viewing window (4) in addition to an output opening (5) and a sensor (6) abutting the output of a towel (p. 5 lines 18-19). In this case, the cover is either opaque or translucent over most of its surface. In a preferred embodiment, it is manufactured together with the window in a two-component injection molding process in order to better integrate the window into the cover (p. 7 lines 6-12).

41           The cover (2) is pivotally connected to the body (3) by means of first and second hinge structures (8), for example in the form of hinge pins, and can therefore be opened for maintenance or replacement of the paper roll (p. 3 lines 17-22). Alternatively, any other embodiment that enables pivoting can be considered, for example, forming projections on the body (3) that engage openings in the cover (2) (p. 5 line 813). In the closed state, the cover is held on the body (3) by means of a locking structure (7) (p. 3 lines 22-24).

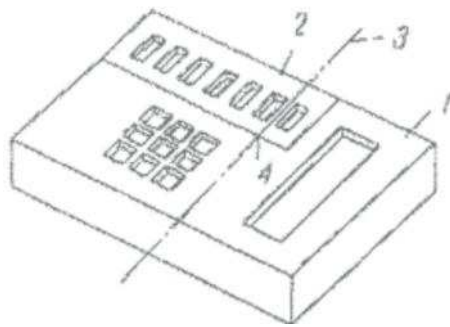
42           b)     Thus, as the Patent Court correctly assumed and also the appeal does not doubt, features 1, 2 a, 2 b and 2 b (1) are disclosed.

43           c)     On the other hand, feature 2 b (2) is not disclosed, as rightly decided by the Patent Court and also not doubted by the appellant's reply.

44 2. Contrary to the Patent Court's view, the subject matter of claim 1 was not suggested by a combination of N4 with N6.

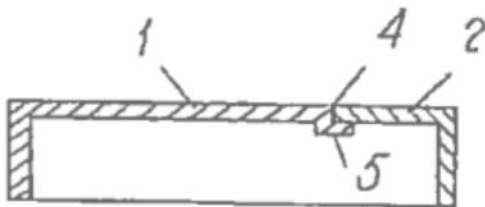
45 a) N6 discloses a product with integrated component parts molded from resin in different colors and cites as an example of use the housing of a key telephone (N6-DE p. 2 lines 8-10), as exemplified in Figure 1 reproduced below.

FIG. 1

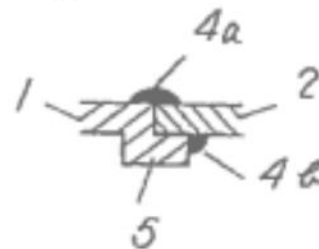


46 A prior art joint produced by ultrasonic welding is shown in Figures 2 and 3 reproduced below. Both show a cross-sectional view along the line (3) drawn in Figure 1.

第 2 图

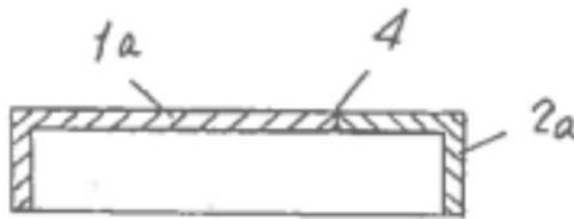


第 3 图

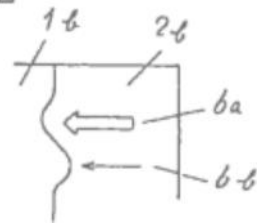


47 Another conventional process, referred to as two-color molding, involves processing two plastics by injection molding with two nozzles. An example is shown schematically in Figures 4 and 6 reproduced below.

第 4 图



第 6 图

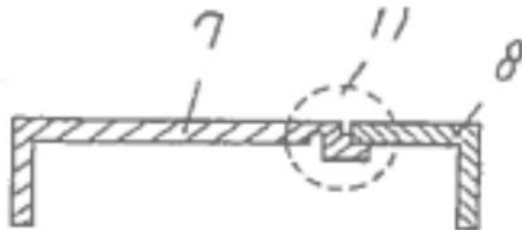


48 In addition to the high costs, the ultrasonic method has the disadvantage that the outer appearance is impaired by burrs. If the burrs are removed, stability suffers (N6-EN p. 3 lines 3-17; p. 4 lines 13-15). With injection molding in the conventional form, there is a risk that the joint seam (as shown in Figure 6) is not straight and the bending strength is low (N6-EN p. 3 line 18 to p. 4 line 12; p. 4 line 15-17).

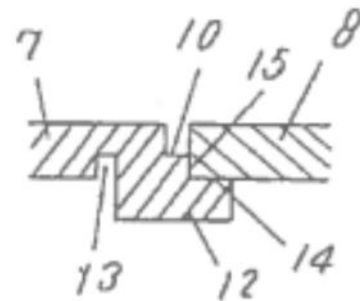
49 As a solution, N6 proposes to provide the connecting surface of one component part (7) with steps and to connect the second component part (8) to this stepped surface by injection molding, with grooves provided in the boundary area of the two plastic components (N6-DE p. 5 lines 1-5).

50 An example of an embodiment is shown in Figures 8 and 9 reproduced below.

第 8 圖



第 9 圖



- 51 The edge of the plastic part of color A (7) has a projection (12), referred to in the German translation as a thick projecting strip, on the surface of which a first step in the form of a groove (10) and a further step (14) are formed. An end face (15) is arranged between them. The two parts are connected to each other at the end face (15) and at the upper side of the second step (14). A groove (13) is provided on the rear (inner) surface of the plastic part (7), which marks the transition to the projection (12) (N6-EN p. 5 lines 9-23).
- 52 The groove (13) and the projection (12) have a dual function. During the molding of the two plastic parts, they are to absorb the pressure generated in the process. For this purpose, a mold is inserted into the groove (13) at this stage. After completion of the molding process and removal of this mold, the groove (13) and the projection (12) are intended to provide increased flexural strength of the product (N6-EN p. 5 lines 23-31; p. 6 lines 14-16).
- 53 The groove (10) on the front, outer surface of the plastic part (7) serves the further purpose of the N6 to ensure a straight line of the connecting seam (N6-EN p. 6 lines 16-18).
- 54 b) Features 2 a and 2 b (1) are thus disclosed.



55 c) Feature 1, on the other hand, is not disclosed.

56 N6 generally refers to products consisting of two plastic components. However, dispenser parts within the meaning of feature 1 are not expressly mentioned.

57 d) Also not disclosed is feature 2 b (2).

58 It is true that the projection (12) disclosed in N6 is likely to correspond to the edge portion (44b, 44c, 44d) within the meaning of the patent in suit. However, N6 does not disclose that the seam has an impact strength equal to or even higher than that of one of the plastic component parts.

59 Contrary to the Patent Court's view, the statements in N6 regarding increased flexural strength do not allow a firm conclusion to be drawn regarding increased impact strength. As has been pointed out above, it is true that there are certain relationships between these two properties. However, also according to the findings of the Patent Court, there is no guarantee that a high bending strength also leads to a high impact strength without further ado. Contrary to the opinion of the Patent Court, however, it is precisely the impact strength that is of decisive importance according to the patent in suit.

60 e) Independently of this, starting from N4, it was not obvious to consider the possibilities of two-component injection molding revealed in N6.

61 aa) However, the fact that N6 describes a telephone housing as an example of use would not be contrary to this.

62 The focus of the citation is the cost-effective and reliable joining of two different plastic components. This problem also arises from N4.

63           bb)    However, the fact that N6 deals only with flexural strength, while impact strength is of importance for donor parts in the sense of N4, speaks against a combination of the two citations.

64           The aforementioned relationships between these two properties are also not so clear that a reference to increased flexural strength readily justifies the expectation that such a compound might also have increased impact strength.

65           cc)    Furthermore, the Patent Court's finding that externally located grooves are unfavorable for paper dispensers speaks against a combination.

66           Contrary to the view of the Patent Court, this consideration did not lead to the suggestion in N6 to switch to two-component injection molding without such a groove. This design is described in N6 as being known and not very stable. According to the comments in N6, the overlap suggested for improvement goes hand in hand with the formation of the two grooves. There is no indication in N6 that a stable connection could be achieved without these grooves.

67           IV.    The contested decision does not prove to be correct in result for other reasons (Sec. 119 (1) Patent Act).

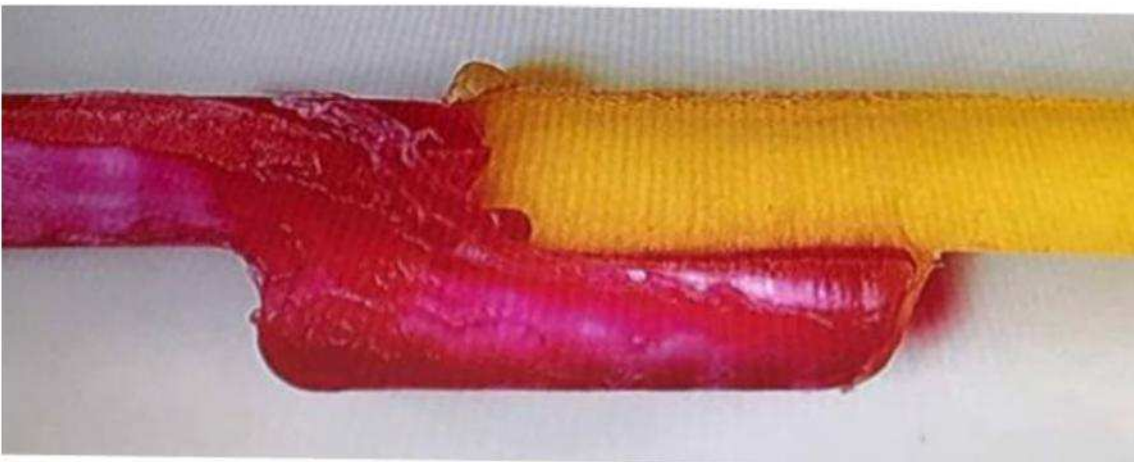
68           1.    The subject matter of claim 1 as granted was also not suggested by the further prior art.

69           a)    With the claimed prior use of the company Kimberly-Clark with the designation "cleanteam", which is described in two statements of a private expert and former employee of the company (N25 and N27, German translations in N26 and N28), a seam with feature 2 b (2) is not disclosed.

- 70 aa) The claimed prior use relates to a dispenser for wet wipes. This is shown in the photographs below.



- 71 The dispenser has a main lid with a centrally located push button for opening a smaller lid. The small lid exposes a soft dispensing opening through which a small portion of the wet wipe protrudes. The dispenser opening, the sides of the push button and a rim surrounding the main lid are made of yellow TPE (thermoplastic elastomers). They are molded by two-component injection molding to the main lid, which is made of harder resin (N25 p. 7).
- 72 The connection between the two components is shown in cross-section in the photos reproduced below (N25 p. 8, N27 p. 2).



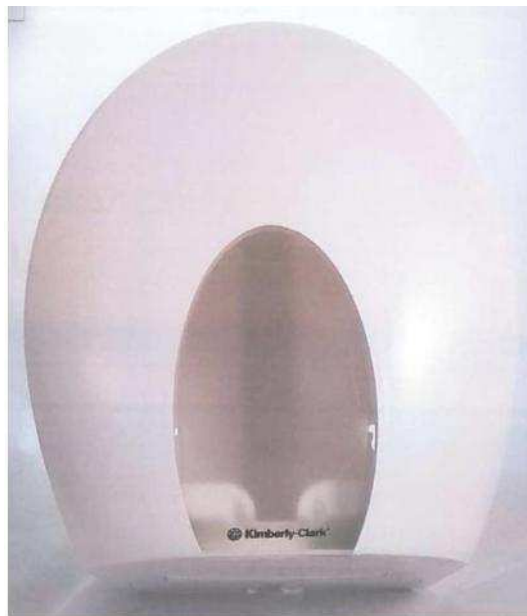
73           bb) This does not provide any reliable information on the load-bearing capacity of the suture.

74           According to the plaintiff's argument based on the private expert, the design of the seam described above does serve the purpose of creating a strong connection. However, it does not follow from this that this connection satisfies the requirements of feature 2 b (2). The fact that a high impact strength was expected, that the strength defined in feature 2 b (2) can be regarded as ideal, and that this ideal was aimed for in the development of the donor "cleanteam" does not allow the conclusion that this objective has been achieved.

75           b)     The prior use of the paper dispenser "Aqua" with the model number 6973 (Set of Exhibits N16), which also originates from the Kimberly-Clark company, as claimed by the plaintiff, also does not anticipate feature 2 b (2).

76           aa)    The claimed prior use concerns a paper dispenser with a viewing window.

77           The photograph reproduced below shows a front view.



78           The transition between the two parts is shown in a photograph, which is reproduced below at two different magnification levels.



79           bb) Whether the T-shaped projection which the transparent component has in the region of the seam and which embraces part of the opaque component extends beyond the transverse extent of the seam and thus corresponds to an edge section within the meaning of feature 2 b (2) cannot be clearly deduced from the figures provided, but can ultimately be left open.

80           In any case, the illustrations and the submissions of the plaintiff and the private expert do not provide sufficient evidence that the joint meets the impact resistance requirements defined in feature 2 b (2).

81           2.       Contrary to the plaintiff's view, the invention is disclosed in such a way that a person skilled in the art can carry it out.

82           However, as the plaintiff correctly asserts in its approach, patent claim 1 in feature 2 b (2) specifies an abstract objective without specifying means by which this objective can be achieved. That the mere design with an edge section, as provided by feature 2 b (2), is sufficient to achieve the specified impact resistance is neither asserted nor otherwise apparent.

83            However, as the Patent Court correctly pointed out in the reference granted under Sec. 83 (1) Patent Act, the explanations of the embodiments in Figures 4b, 4c, 4d, 12b and 12c give concrete indications as to how the desired impact strength can be achieved. The fact that - as described in the patent specification in dispute (para. 96) - several tests may be necessary in order to obtain the desired impact resistance properties specified in feature 2 b (2), which, according to the explanations in the patent specification in dispute, mean in practice that the donor part breaks in the event of an impact first on one side or parallel to the seam, but not at the seam itself (para. 28), does not prevent the affirmation of an executable disclosure.

84            V.     The legal dispute is ripe for final decision (Sec. 119 (5), second sentence, Patent Act).

85            It follows from the above considerations that the subject-matter of the patent in suit is patentable. The complaint must therefore be dismissed.

86 VI. The decision on costs is based on Sec. 121 (2) Patent Act and Sec. 91 (1) Code of Civil Procedure (ZPO).

Bacher

Hoffmann

Deichfuß

Kober-Dehm

Rombach

Lower court:

Federal Patent Court, decision of November 11, 2020 - 5 Ni 2/19 (EP) -