



FEDERAL SUPREME COURT

JUDGMENT IN THE NAME OF

THE PEOPLE

X ZR 106/22

Announced on:

September 3, 2024

Wieseler

Clerk of the Court

as clerk of the

registry

in the patent nullity case

Reference work: yes

BGHZ: no

BGHR: yes

JNEW: yes

Disc brake III

EPC Art. 56; PatG § 4

The objectively appropriate use of a general means to be considered for a large number of applications is not inapplicable merely because this means generally has certain disadvantages or because other embodiments can also be considered in the specific context (confirmation of Federal Supreme Court BGH, judgment of June 15, 2021 - X ZR 58/19, GRUR 2021, 1277 para. 53 seq. - Führungsschienenanordnung).

Federal Supreme Court (BGH), judgment of September 3, 2024 - X ZR 106/22 - Federal Patent Court

The X. Civil Senate of the Federal Supreme Court at the hearing on September 3, 2024 by the presiding judge Dr. Bacher, the judge Hoffmann, the judge Dr. Kober-Dehm, the judge Dr. Crummenerl and the judge Dr. von Pückler

found to be right:

The defendant's appeal against the judgment of the 4th Senate (Nullity Senate) of the Federal Patent Court of July 4, 2022 is dismissed.

On appeal by the plaintiff, the judgment is modified.

European patent 1 974 150 is declared invalid with effect for the Federal Republic of Germany.

Orders the defendant to pay the costs.

By right

Facts:

1 The defendant is the proprietor of European patent 1 974 150 (patent in suit), which was granted with effect in the Federal Republic of Germany on January 18, 2007, claiming a German priority of January 18, 2006, and relating to a disc brake.

2 Claim 1, to which nineteen claims are related back, was amended as follows in previous nullity proceedings (BPatG, judgment of October 25, 2018 - 7 Ni 12/17 (EP); Federal Supreme Court (BGH), judgment of December 15, 2020 - X ZR 180/18, GRUR 2021, 701 - Scheibenbremse I):

Disc brake having a brake carrier (3) which is arranged fixedly in relation to an axle body (1) and has arranged on it receiving elements (21) for the attachment and floating mounting of a brake calliper, the brake carrier (3) having a lining shaft (10) for receiving a brake pad which bears against a brake disc of the disc brake, and each further brake pad being a receiver of the brake calliper, guide surfaces (11, 12) for the radial and tangential guidance of the brake pad being arranged on the pad shaft (10), and the brake carrier (3) being arranged directly on the axle body (1) and extending essentially transversely with respect to the latter, characterized in that the brake carrier (3) is designed as a plane, flat steel plate, and that for the interchangeability of the guide surfaces (11, 12) arranged on the brake pad shaft (10), at least one wear plate (40, 40a) arranged on the in side of the brake pad shaft (10) is provided, on which a radial (11) and a tangential (12) guide surface for the brake pad is formed.

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 skilled person could carry it out.

4 The defendant has defended the patent in suit in its current version and with three-ten auxiliary requests in amended versions.

5 The Patent Court declared the patent in suit invalid insofar as its subject-matter extends beyond the version defended by auxiliary request 6 at first instance, and dismissed the rest of the complaint.

6 Both parties are appealing against this. The plaintiff continues to seek the complete revocation of the patent in suit. The defendant defends the patent in suit primarily in the version of its auxiliary request 7 at first instance (which it already filed at first instance with priority over auxiliary request 6), alternatively in six new versions and, in the further alternative, in the version of the judgment under appeal.

Reasons for the decision:

7 Both appeals are admissible. Only the plaintiff's appeal is successful.

8 I. The patent in suit relates to a disc brake intended primarily for motor vehicles with a brake carrier which is fixedly attached to an axle beam.

9 1. According to the statements in the patent in suit, disc brakes with partly similar features were known from several previous publications.

10 The assembly of one of these brakes is relatively complex. With another brake, the brake carrier includes support arms for elements to guide the brake calliper, which increases its weight.

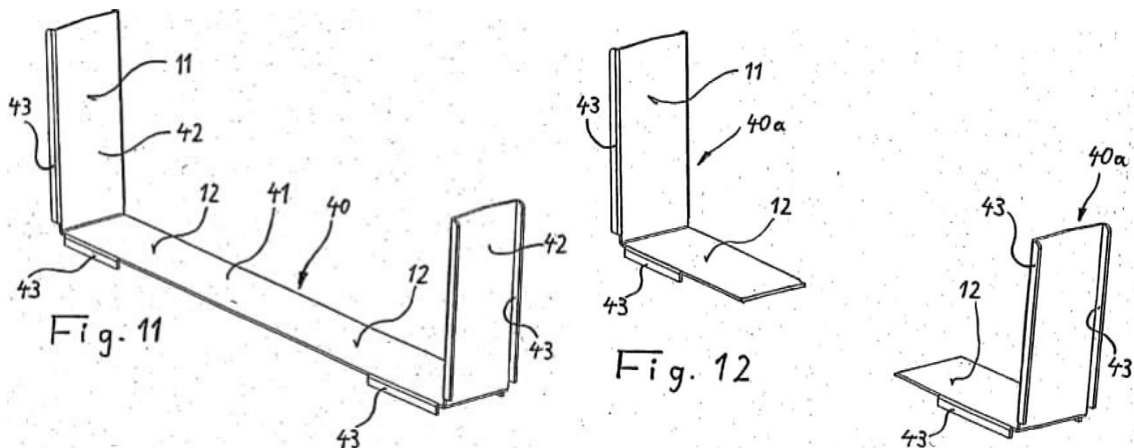
11 2. Against this background, the patent in suit concerns the technical problem of providing a disc brake which is as simple as possible in design, as light as possible and as easy as possible to install.

12 3. For the solution, claim 1 in the version of the second main request proposes a disc brake, the features of which can be structured as follows (changes compared to the current version are highlighted):

- X ZR 180/18, GRUR 2021, 701 para. 12-33 - Scheibenbremse I).

14 5. From the requirement defined in feature 3' that the two wear plates each have the shape of an angle, and from the features 3.1' and 3.2', according to which the wear plates each have a radial guide surface and a tangential guide surface arranged essentially at right angles to it, it follows that there must be no further angles transverse to the longitudinal direction in order to form additional guide surfaces.

15 The wording of feature 3' does not exclude further angles of this type when considered in isolation. However, a comparison of the two examples of embodiments in Figures 11 and 12 reproduced below in the description of the patent in suit shows that angled wear plates within the meaning of this feature may only have two guide surfaces.



16 According to the explanations in the description, the wear plate (40) shown in Figure 11 is in one piece and consists of a central web plate (41) and two side plates (42) arranged essentially at right angles to it (para. 29). Figure 12, on the other hand, shows two wear plates, each in the form of an angle (para. 30).

17 It can be inferred from this that the patent in suit uses the term "angle" to
distinguish wear plates with only two guide surfaces from embodiments with
18 three or more guide surfaces.

18 This delimitation is decisive for the interpretation of feature 3', which
takes up this term.

19 Whether feature 3' also excludes additional angles that serve other
functions - such as folded edges for additional fixing of the sheets in the
longitudinal direction - does not require a final decision.

20 II. The Patent Court essentially gave the following reasons for its
decision, insofar as relevant for the appeal proceedings:

21 A brake carrier with features 1 to 2 is known from the German utility model
20 2005 005 798 (D20a).

22 The use of wear plates in accordance with features 3, 3.1', 3.2' and 5'
was obvious to the skilled person, an engineer specializing in mechanical
engineering or vehicle technology with several years of professional experience
in the development and design of brakes, in particular in the field of disc brakes
for commercial vehicles, due to his specialist knowledge.

23 The fact that it was part of the general technical knowledge to provide
plates to reduce wear of the sliding surfaces between a brake pad and an
opening in a brake carrier was proven, for example, by US patent
specification 6 478 122 (D46), European patent application 1 375 952 (D1a) and
German disclosure document 198 57 074 (D19).

24 The use of such wear plates was objectively expedient because the
brake carrier shown in D20a was welded to the axle and could therefore not be
replaced without replacing the entire axle in the event of damage. It is therefore
expedient for the skilled person

to attach wear plates to the abutment surfaces without being inventively active in doing so.

25 The provision of such wear plates was not associated with difficulties which made their use appear to be unfeasible. Such difficulties were not to be seen in the fact that other embodiments could be considered or that the means was generally associated with certain disadvantages.

26 The provision of two right-angled wear plates is an appropriate arrangement based on the shape of the contact surfaces for brake pads shown in D20a. These are divided into two spaced-apart surfaces in radial alignment. For reasons of material saving alone, the skilled person will accordingly provide separate wear plates.

27 The fixing of the wear plates by means of overlapping folded edges was objectively necessary in order to position the plates during assembly and to keep them in position during operation. This measure was also customary in the trade, as evidenced by D46 and US patent specification 5 901 815 (D45).

28 The patent in suit was also not patentable in the versions of auxiliary claims 1 to 4 and 7 at first instance.

29 In the version of auxiliary request 6 at first instance, however, the patent in suit is legally valid. The additional feature of an L-shaped opening for the attachment of the brake carrier to the axle beam is a catchword-like, summarizing description of the opening shown in Figure 3 with exactly two surfaces at right angles to each other. Such an opening is not disclosed in D20a. Only axes with a round cross-section are shown there. The German disclosure document 1 630 140 (D7) shows an axle with a square cross-section to which a brake carrier with a C-shaped or mouth-shaped opening is welded. However, there is no

Suggestion to change the design of the brake carrier from D20a, which is adapted to a round axle. It could therefore be left open whether an L-shaped opening was merely a simple adaptation of the axle tube known from D7.

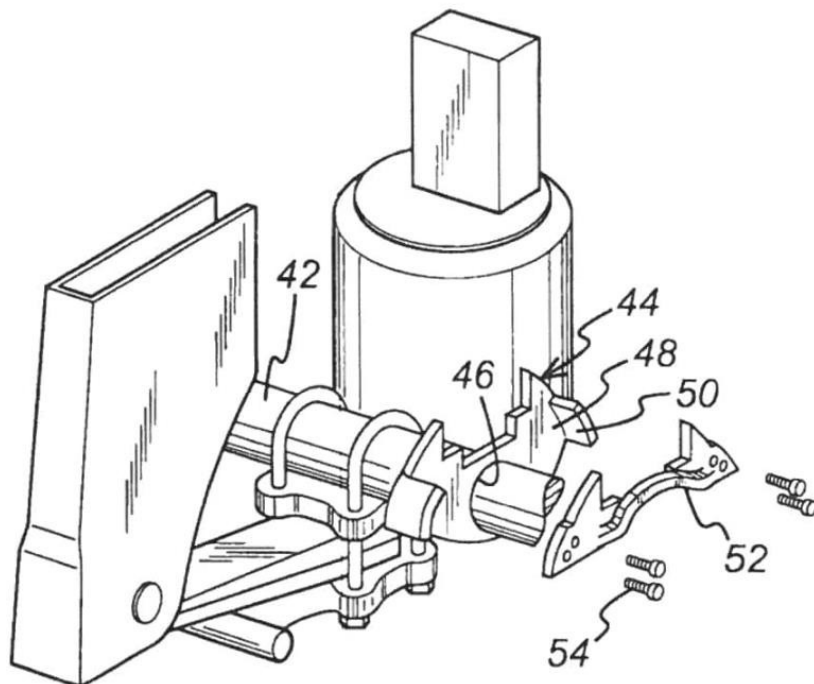
30 III. This assessment withstands the attacks of the defendant's appeal.

31 1. the object defended with the main application in the second instance
was obvious based on D20a.

32 a) D20a discloses a disk brake.

33 aa) D20a states that conventional arrangements for the trailers of
commercial vehicles comprise an adapter attached to the axle, to which a
separate brake carrier is attached. The applicant of D20a proposed a brake
carrier attached directly to the axle, as shown in Figure 2 reproduced below.

FIG. 2

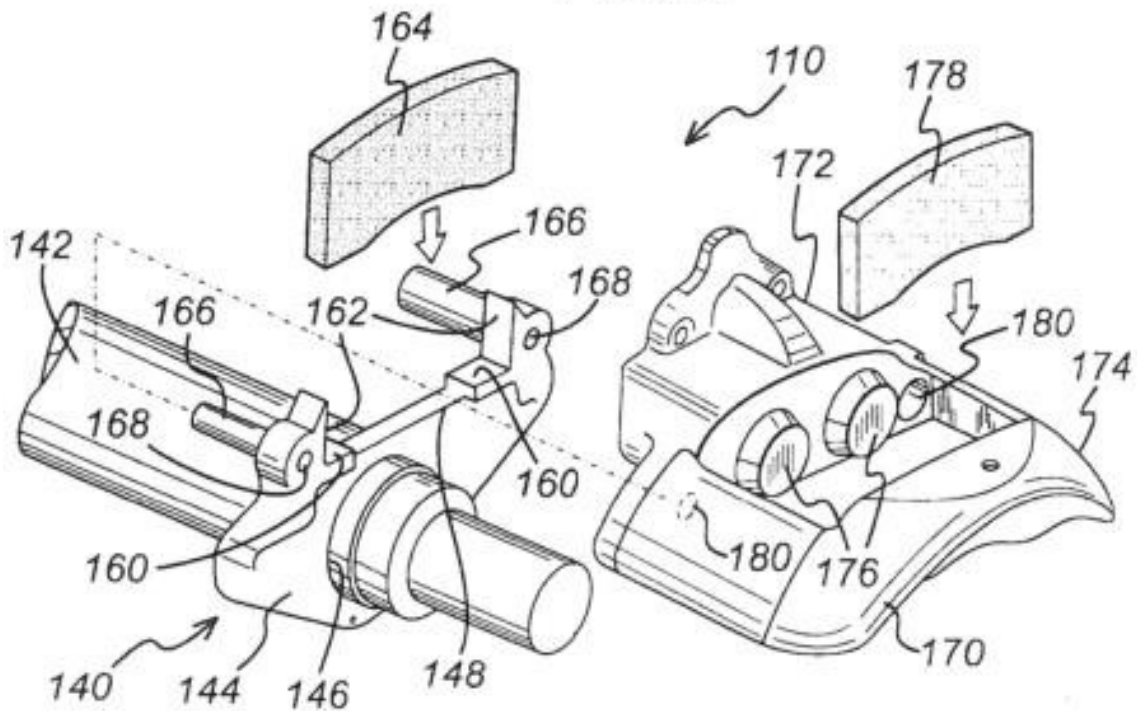


34 This brake carrier has an opening (46) through which a portion of the axle is received before the brake carrier is secured to the axle by welding or otherwise. It also comprises an internal stop (48), limiting surfaces (50) and an external stop (52) fixed by means of bolts. This still leads to a high weight and great assembly effort (para. 3 f.).

35 In D19, a similar type of carrier is disclosed, in which instead of the stop (52) a support is used which is provided in the outside of the brake caliper. However, these embodiments are still provided with limiting surfaces in order to transmit the forces generated during the braking process to the axle via the carrier (para. 5).

36 bb) For improvement, D20a proposes to provide two guide sleeves (166) instead of the boundary surfaces (50) (para. 18).

37 An example of an embodiment is shown in Figure 3 below.

FIG. 3

38 The forces occurring during braking are transmitted to the brake calliper (170) as shear forces and are balanced by the sleeves (166) and the corresponding bores (180) (para. 23).

39 b) Thus, as the parties do not doubt, features 1 to 2 are disclosed, but not features 3' to 5'.

40 As the Patent Court correctly stated, it can be left open in this context whether the brake carrier is still designed as a flat, level steel plate within the meaning of feature 2 even if the stop surfaces (160, 162) are lower in the axial direction than the rest of the carrier, as shown in Figure 3.

41 According to the description, this embodiment is not mandatory in other embodiments (para. 17). At least in such embodiments, feature 2 is realized.

42 c) The Patent Court rightly considered features 3' to 5' to be obvious.

43 According to the case law of the Senate, the use of a specific means can be obvious even without a corresponding suggestion if this means, as a general means to be considered for a large number of applications, belongs by its nature to the general expertise of the skilled person addressed, the use of the functionality in question is objectively appropriate in the context to be assessed and no special circumstances can be identified which make its use appear impossible, difficult or otherwise unreasonable from a technical point of view (Federal Supreme Court BGH). March 2014 - X ZR 139/10, GRUR 2014, 647 para. 26
- Paint supply system; judgment of March 27, 2018 - X ZR 59/16, GRUR 2018, 716 para. 29 - Kinderbett; decision of July 13, 2020 - X ZR 90/18, GRUR 2020, 1074 para. 49 - Signalübertragungssystem).

44 The Patent Court correctly considered these requirements to be met in the case in dispute.

45 aa) According to the Patent Court's findings, at the time of priority it was common general knowledge to provide plates for reducing wear of the sliding surfaces between a brake pad and an opening in a brake carrier.

46 The defendant does not provide any concrete evidence that would cast doubt on the correctness or completeness of these findings (Sec. 117 PatG, § Section 529 (1) no. 1 Code of Civil Procedure (ZPO)).

47 The citations used by the Patent Court as examples of the relevant technical knowledge support the conclusion drawn.

48 (1) D46 deals with means for linear and radial elastic retention of a brake
pad in a first and a second groove in an armature of a disk brake.

49 D46 states that in disc brakes with sliding surfaces for the brake pads,
scoring occurs after a certain period of time. This wear is to be expected
because the armature and the backing plate are made of different metals (p. 1
lines 17-25). In order to reduce it, a cap is usually provided between the
components in the opening of the brake carrier, which has an equal or lower
coefficient of friction than the backing plate of the brake pad. This would
increase the minimum tolerances required to avoid thermal bonding. Therefore,
a spring is added to elastically press the ear of the carrier plate into
engagement with the attachment (p. 1 lines 31-41).

50 D46 proposes to provide the anchor plate of the disk brake with
integral slip springs arranged in grooves to bring a backing plate held between
the grooves axially with respect to a brake disk and ears of the backing plate
radially into engagement with a corresponding side wall of the grooves (p. 1
lines 44-50).

51 The Patent Court rightly inferred from these statements that D46 regards
the application of additional parts such as a cap as customary in the art and only
proposes an improvement with regard to the design of such parts.

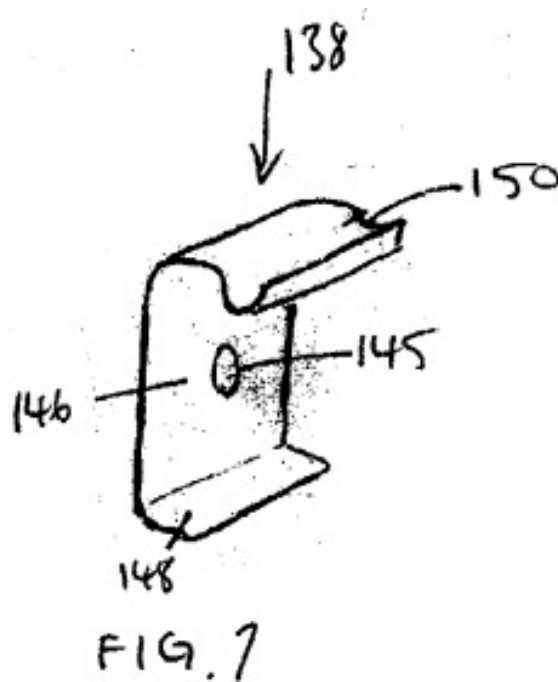
52 The fact that D46 concerns a brake with a floating caliper instead of the
floating caliper envisaged by the patent in dispute does not call this assessment
into question. The statements in D46 do not indicate that the type of caliper is of
decisive importance. Rather, it can be inferred from them that the measures in
question serve to protect against wear.

53 (2) D1a deals with pad springs for disc brakes.

54 D1a explains that in known disc brakes, two brake pads are arranged on both sides. Their back plates are mounted on vertical and horizontal bearing regions. In a typical floating caliper brake, one of the backing plates is in engagement with the piston. Radial outward movement of the pads is restricted by elongated pad springs. Nevertheless, certain areas are preferably hardened and machined to limit damage to the carrier that could occur if the backing plate repeatedly collides with it (para. 3-5).

55 To improve this, D1a proposes shaping the lining springs in a special way (para. 11 et seq.). This would eliminate the need to harden the contact points (para. 25).

56 An example of such a spring is shown in Figure 7 below.



57 Preferably, spring steel is suggested as the material for the lining springs (138). The Exhibits and support surfaces (146, 148) could be made of a basically tough or hard material (para. 13). Alternatively, these surfaces could be formed of a fundamentally soft and deformable material that remains untreated to simply act as a wear material that can be replaced once the associated lining is worn out and is also replaced (para. 14).

58 Thus, D1a also shows that the use of intermediate parts, which act as wear material and are regularly replaced, was regarded as a measure known in the prior art.

59 Contrary to the defendant's view, the disclosure of D1a is not limited to preventing wear of the brake carrier by keeping the brake pads at a distance by spring force. In the second embodiment proposed in D1a, wear of the brake carrier is rather prevented by the fact that the brake pads come into contact exclusively with the spring designed as a wear part.

60 (3) D19 deals with disc brakes for commercial vehicles, comprising a brake carrier and a sliding caliper.

61 In order to reduce installation space and weight, D19 proposes that the brake carrier be non-detachably connected to the axle (sp. 1 fig. 63 to sp. 2 fig. 7). In the area of the guide surfaces for the sliding caliper, the brake carrier is preferably provided with replaceable protective elements in the form of armoring, which are preferably made of sheet steel. This prevents the entire axle part having to be replaced if the guide surfaces are damaged (item 3 lines 13-21).

62 This also proves that the arrangement of wear parts at particularly vulnerable points of a disc brake was regarded as a known method.

63 The fact that D19 only mentions the proposed armoring for guide
surfaces of the sliding saddle and does not describe its structure in detail is not
of decisive importance, contrary to the defendant's view. The relevant idea of
protecting parts firmly connected to the vehicle at points subject to a high risk of
wear by arranging easily replaceable wear parts is sufficiently clear even
without such explanations.

64 It is also irrelevant whether the risk of wear in the design disclosed in D19 is
caused by friction or by impact forces. The decisive factor is that damage to a
part that is difficult to replace due to forces occurring during operation is
avoided by installing a part that is easy to replace.

65 (4) The combination of the above citations provides additional confirmation
that the installation of wear parts was a widespread measure that can also be
used in disc brakes at various points in order to avoid wear of parts that are
difficult to replace.

66 bb) Against this background, the Patent Court correctly concluded that on
the priority date it was objectively expedient to use the means in question in
brakes of the type proposed in D20a on the guide surfaces for the brake pads.

67 (1) As the Patent Court correctly stated, D20a proposes a brake carrier
welded to the axle. It follows that replacing this component is at best possible at
great expense.

68 In view of this, it proved objectively expedient to take additional measures
to protect areas that are particularly at risk of wear.

According to the error-free findings of the patent court, these points included the stop surfaces (160, 162) with which the brake pad (164) is in sliding contact.

69 The use of wear parts along the lines of D46, D1a and D19 was a suitable measure for this purpose, if only because D46 and D1a exemplify such parts in contact with the brake pad. D19 provides additional confirmation that this means is objectively expedient for protecting areas at risk of wear, irrespective of the embodiment disclosed in each case.

70 (2) Contrary to the defendant's view, this assessment is not contradicted by the fact that the frictional forces occurring and thus the risk of wear in the disc brake disclosed in D20a is lower if the stop surfaces (160, 162) are lower in the axial direction than the rest of the carrier, as shown in Figure 3.

71 As already explained above, D20a also provides for embodiments without this design. In any case, there is an increased risk of wear in these embodiments from a technical point of view because higher frictional forces occur due to the smaller contact surfaces.

72 cc) The Patent Court also correctly decided that there were no relevant difficulties in applying this means in the context of D20a.

73 (1) In this context, it can be left open whether the use of wear plates requires a reduction in material in the area of the guide surfaces in order to create sufficient space.

74 Even if this were to be affirmed, no circumstances are apparent that would preclude such a measure in the case of the stop faces disclosed in D20a (160, 162).

75 (2) The fact that D1a, D19 and D46 show neither a division of the wear part into two angle plates nor lateral folds for fixing does not give rise to any relevant difficulty either.

76 The Patent Court rightly assumed that, against the background shown above, there was reason to adapt wear parts to protect the stop surfaces (160, 162) proposed in D20a to the conditions of this construction.

77 On this basis, the Patent Court correctly concluded that the use of two angled plates was appropriate because the stop surface (160) consists of two parts at a relatively large distance from each other and both parts are each adjacent to a stop surface (162) arranged at right angles thereto.

78 Whether folded edges were necessary to fix the wear plates or whether the required fixation can also be achieved in another way does not require a final decision. A design according to feature 1.5' was in any case obvious against the background described above because, according to the Patent Court's error-free findings, these were simple and customary measures.

79 (3) The fact that the replacement of wear plates requires an additional and possibly complicated work step and that delays by the user in this regard lead to particularly high wear of the brake carrier does not represent a relevant difficulty either.

80 The objectively appropriate use of a general means to be considered for a large number of applications is not inappropriate merely because this means generally has certain disadvantages or because other embodiments can also be considered in the specific context (Federal Supreme Court BGH, judgment of June 15, 2021 - X ZR 58/19, GRUR 2021, 1277 para. 53 et seq. - Führungsschieneanordnung).

81 Contrary to the defendant's view, the dispute merely concerns
disadvantages of this kind, which are generally associated with the means in
question, but which do not in principle prevent its use as a general means.
Further difficulties that could arise specifically in the context of D20a have
neither been pointed out nor are otherwise apparent.

82 2. the patent in suit does not prove to be legally valid in the versions of
the second-instance auxiliary requests I to VI either.

83 a) Auxiliary request I is subject to the same assessment as the main
request.

84 aa) According to auxiliary request I, claim 1 in the version of the main
request is to be amended as follows:

3a The respective wear plate (40a) is in one piece and consists of
a web plate (41) and a side plate (42) arranged essentially at
right angles to it, whereby

3.1" ~~on each of which~~ a radial (11) and a radial (12) are attached
~~to one side plate (42).~~

3.2" a tangential (12) guide surface for the brake pad is formed on
~~a web plate (41) arranged essentially at right angles to this.~~

85 bb) This arrangement was obvious for the same reasons as the subject
matter defended by the main application.

86 A one-piece design of the two angle plates may not be the only
possible embodiment. However, it is obvious because it is easy to implement.

87 b) Nothing to the contrary applies to auxiliary requests II to V.

88 aa) After auxiliary requests II, III, IV and V, claim 1 in the version of
auxiliary request I is to be amended as follows:

5" The brake comprises two means formed laterally on the side plate (42) and two means formed laterally on the web plate (41) for fixing the respective wear plate (40, 40a) to the lining shaft (10) exclusively in the form of flat folded edges (43) extending over the flat sides (25, 26) of the brake carrier (3) and projecting only slightly by 3-5 times the material thickness of the wear plate.

6 The folded edges (43) are supported from the outside against the flat sides (25, 26) of the brake carrier (3) so that they secure the respective wear plate (40a) in the lining shaft (10) and the respective wear plate (40a) cannot slip in it.

89 bb) All these additions concern appropriate and obvious embodiments of the means already provided for in feature 5'.

90 The fact that D1 shows a fastening of the springs used there with the aid of pins, and that the other details are not expressly disclosed in any of the above claims, does not lead to a different judgment.

91 An embodiment detail is not based on inventive step simply because there were alternatives.

92 c) The subject-matter defended by auxiliary request VI is also not patentable.

93 aa) According to auxiliary request VI, claim 1 in the version of auxiliary request 6 at first instance is to be joined by a secondary claim 2, which differs from the current version of claim 1 by the following features:

1.1 The brake carrier is provided with weight-reducing recesses (16a, 16b, 16c) on at least one of its two sides (25, 26).

2.2" The brake carrier (3) has a mouth-shaped opening for attachment to the axle beam

2.2a and an enclosing angle (w_1) of less than 300 degrees in relation to the central axis (6) of the axle beam (1), so that a total of three surfaces (5a, 5b, 5c) are available at the mouth-shaped opening (4) for a welded connection with a quadratically designed axle tube of the axle beam (1).

2.3' The brake carrier (3) is connected on each of its two sides (25, 26) to the square axle tube of the axle beam. (1) are connected by a weld seam (2).

4 On the wear plate (40, 40a) there are molded means (43) for fixing the wear plate to the lining shaft (10) in the form of folded edges (43) extending over the flat sides (25, 26) of the brake carrier (3).

94 bb) This embodiment is also not based on inventive step.

95 (1) With regard to features 1 to 2', there is no other assessment than in connection with the other requests.

96 (2) Feature 4 essentially corresponds to feature 5' provided for in the other applications and is therefore also not subject to a different assessment.

97 (3) The provision of weight-reducing recesses in accordance with feature 2.1 is not based on inventive step.

98 As the Patent Court correctly stated in connection with the first instance auxiliary request 2, there is a fundamental need for components in a motor vehicle to be built as weight-saving as possible for the purpose of efficient operation.

99 Against this background, it made sense to provide the brake carrier with
recesses at points that are subject to less stress.

100 (4) A design corresponding to features 2.2", 2.2a and
2.3' was also an obvious choice based on D20a.

101 As the plaintiff already stated at first instance in response to auxiliary
request 5 filed by letter dated March 29, 2022, a disc brake whose brake carrier
has a mouth-shaped opening and is welded to an axle tube with a square cross-
section is disclosed in D7.

102 Contrary to the view taken by the Patent Court in connection with
auxiliary request 6 at first instance, against this background there were
reasons to consider a disc brake of the type disclosed in D20a also for axle
tubes with a square cross-section.

103 However, as the defendant rightly asserts in the beginning, an axle with a
cross-section deviating from the circular shape is not mentioned in D20a. The
reference cited by the plaintiff, according to which, for example, a semicircular
shape may also be considered (para. 15), does not refer to the cross-section of
the axle, but to the opening (146) through which the brake carrier can pass.
(144) accommodates a section of the axle (142). The reference at the end of the
description that the disclosed brake can be used on steered axles, if necessary
with a suitable adaptation (para. 25), also does not clearly indicate that this also
refers to axles with a square cross-section.

104 Contrary to the opinion of the Patent Court, however, there is no
indication in D20a that a complete embodiment is disclosed in which the
individual elements are functionally coordinated and interact with each other in
such a way that the axle must necessarily have a circular cross-section. D20a
deals, among other things, with the transfer of the forces generated during
braking to the axle.

However, this does not indicate that the cross-section of the axle is of decisive importance.

105 Against this background, there was reason to look for ways of attaching a brake of the type disclosed in D20a to an axle with a square cross-section, as shown as an example in D7. A mouth-shaped opening according to features 2.2", 2.2a and 2.3', as disclosed in D7, was suitable for this purpose.

106 IV. The plaintiff's appeal is successful and leads to the complete revocation of the patent in suit.

107 (1) According to the judgment under appeal, claim 1 is to be amended as follows in comparison with the current version:

1.3' The brake carrier (3) is welded to the axle beam (1) and is arranged directly on the axle beam (1) and extends essentially transversely to it.

2.1 The brake carrier is provided with weight-reducing recesses (16a, 16b, 16c) on at least one of its two sides (25, 26).

2.2' The brake carrier (3) has an L-shaped opening for attachment to the axle beam.

2.3 The brake carrier (3) is connected on each of its two sides (25, 26) to the square axle tube of the axle beam.

(1) is connected by a weld seam (2) that extends along a first, horizontal weld section and a second weld section at right angles to it.

4 On the wear plate (40, 40a) are molded means (43) for fixing the wear plate to the lining shaft (10) in the form of folded edges (43) extending over the flat sides (25, 26) of the brake carrier (3).

108 2 Contrary to the opinion of the patent court, this subject-matter was also obvious on the basis of D20a.

109 a) The fact that the design according to features 1.3', 2.1 and 4 was obvious has already been shown in connection with auxiliary request VI, which provides for corresponding features.

110 b) As also already explained in connection with auxiliary request VI, there was reason to consider disc brakes of the type disclosed in D20a also for axles with a square cross-section, contrary to the opinion of the Patent Court.

111 c) Against this background, it was also obvious to provide the brake carrier with an L-shaped opening within the meaning of feature 2.2' and to weld it to the axle in the manner specified in feature 2.3.

112 aa) The reason for such a design already resulted from the above-mentioned reference in D20a, according to which the opening of the brake carrier accommodating a section of the axle can be semicircular.

113 A semi-circular opening encompasses half of the circumference of a round axis. In the case of an axle with a square cross-section, the same effect is achieved by an L-shaped opening that encompasses two of the four sides of the square.

114 bb) The supplementary statements in D20a, according to which the contact area of a semicircular opening can be axially enlarged in order to strengthen the connection between the carrier and the axle (para. 15), do not lead to a different assessment.

115 It remains to be seen whether a beam with a contact area reinforced in the aforementioned manner can still be regarded as a flat, flat steel plate within the meaning of feature 2. D20a only suggests such reinforcement as an option. The fact that it would always be absolutely necessary in order to achieve a sufficiently

strong connection between the carrier and the axle is not apparent. The patent in suit does not propose any special measures in this respect either.

116 V. The decision on costs is based on Section 121 (2) PatG and Section 97 (1) and Section 91 (1) Code of Civil Procedure (ZPO).

Bacher

Judge at the Federal Supreme Court
Hoffmann is on vacation and therefore
unable to sign

Kober-Dehm

Bacher

Crummenerl

von Pückler

Lower court:

Federal Patent Court, decision of 04.07.2022 - 4 Ni 23/21 (EP) -