



# FEDERAL SUPREME COURT

## ON BEHALF OF THE PEOPLE

### JUDGMENT

X ZR 51/21

Announced on:  
June 13, 2023  
Zöller  
Clerk of the Court  
as clerk of the court  
registry

in the patent nullity case

Reference book:    yes  
BGHZ:               no  
BGHR:               yes

Lock housing

EPC Art. 56; PatG § 4

- a) An inventive step cannot be based on a feature that represents an arbitrary selection from several possibilities, detached from a specific technical purpose (confirmation of Federal Supreme Court (BGH), judgment of May 22, 2007 - X ZR 56/03, GRUR 2008, 56 para. 25 – Injizierbarer Mikroschaum; judgment of November 27, 2018 - X ZR 41/17, para. 46).
- b) Special advantages associated with a feature can only be used for reasons of inventive step if they are disclosed in the patent specification or are recognizable to a person skilled in the art (confirmation of Federal Supreme Court (BGH), judgment of November 27, 2018 - X ZR 41/17, para. 46).

Federal Supreme Court (BGH), Judgment of June 13, 2023 - X ZR 51/21 -  
Federal Patent Court

The X. Civil Senate of the Federal Supreme Court, at the oral hearing on June 13, 2023, by the Presiding Judge Dr. Bacher, the Judges Dr. Kober-Dehm, Dr. Marx and Dr. Rombach, and the Judge Dr. Rensen,

found in favor of the defendant:

The appeal against the judgment of the 2nd Senate (Nullity Senate) of the Federal Patent Court of April 19, 2021, is dismissed at the expense of the plaintiff.

By law

Facts:

1           The defendant is the owner of European patent 982 978 (patent in suit), which was granted with effect for the Federal Republic of Germany, was applied for on June 10, 1999, claiming two German priorities of August 25, 1998, and April 15, 1999, and has since lapsed due to the passage of time.

2           The patent in suit relates to a lock housing with electrical connection means. Claim 1, to which fifteen further claims are referred back, reads in procedural language:

A housing, especially a lock housing for a motor vehicle door lock, gear housing or similar lead carrier, made of plastic, especially injection-moulded plastic, comprising one or a plurality of electrical components to which electrical leads with connecting devices are allocated, wherein the electrical leads are fixedly connected to the housing, characterized in that the components (6) connected to the electrical leads (7) have one or a plurality of spring connecting conductors (9) for contact with the connection devices (8) of the electrical leads (7).

3           The plaintiff, who is being sued by the defendant for infringement of the patent in suit, is seeking a declaration of invalidity of the patent in suit to the extent of claims 1 to 6. It has argued that the contested subject-matter is not patentable. The defendant has defended the patent in suit with one main request and eight auxiliary requests in amended versions.

4           The Patent Court declared the patent in suit invalid to the extent that its content went beyond the version defended by auxiliary request VIII, and dismissed the complaint for the rest. The plaintiff appeals against this decision and continues to seek a declaration of invalidity of the patent in suit to the extent challenged. The defendant opposes the appeal.

Reasons for Decision:

5           The appeal is admissible but unfounded.

6           I.       The patent in suit concerns a lock housing with electrical  
connection devices.

7           1.       According to the statements in the patent in suit, lock housings, as  
known from German Offenlegungsschrift 43 06 143 (NKL2), are reinforced by  
placing the electrical leads and the contact devices in an injection mold and in this  
way embedding or injecting them into the housing. The embedded leads regularly  
consist of a galvanically conductive plastic or a galvanically conductive plastic layer  
and are provided with a metallically conductive coating. The connection devices  
are designed as solder sleeves or pockets with resilient lips.

8           2.       Against this background, the patent in suit concerns the technical  
problem of providing a housing which is easy to assemble, meets all stability  
requirements, ensures perfect electrical contact and, as far as possible, does not  
transfer spring forces to the electrical components.

9           3.       For the solution, the patent in suit proposes in patent claim 1, in the  
version of the first-instance auxiliary request VIII still to be assessed in the appeal  
proceedings alone, a lock housing, the features of which can be divided as  
follows:

- a Lock housing (3) for a motor vehicle door latch
  - b' 'made of Injection molded plastic
  - c' with one or more electrical and microswitch components (6).
- d The microswitches (6) are connected to electrical lines (7) with connection devices (8).
- e' The electrical leads (7) are firmly connected to the lock housing (3) by injection molding and embedded in the lock housing (3).
- f' The microswitches (6) have one or more spring-loaded connection conductors (9) for end-side contacting with the connection devices (8).
- j The connecting devices (8) are designed as vertically upstanding contact webs (10).
- g' The connecting conductors (9)
  - g1 emerge from the microswitch (6) approximately orthogonal to the joining direction (arrow A),
  - g2 are formed as conductor strips (9),
  - k are designed as expansion elements with contact surfaces (11) which can be plugged onto the contact webs (10),
  - l' have a contact end (12) angled approximately parallel to the joining direction (arrow A), which has a resilient and  $\Omega$ -shaped clamping recess (13) that can be plugged onto the contact webs (10),
  - h' are designed in such a way that their spring action (arrow B) is aligned approximately orthogonally to the joining direction (arrow A) of the microswitches (6)
  - i and forces occurring as a result are not or only insignificantly transmitted to the potting area and the inside of the microswitches (6).

11           a)     Contrary to the Patent Court's statements, which are not relevant to  
the decision but are at least misleading, it does not follow from the term "lock  
housing" given in feature a that the housing must be used for a lock.

12           Purpose and function specifications in a subject-matter claim regularly do  
not limit its subject-matter to the specified purpose or the specified function. As  
a rule, they only define the subject-matter protected by the patent as being, in  
addition to fulfilling the other spatial and physical features, also designed in such  
a way that it can be used for the stated purpose or fulfill the stated function. It  
must therefore be objectively suitable for fulfilling the stated purpose or function.  
Even with such a concretization, the claim directed to a device remains a material  
claim. Neither the actual use of an object nor which use it serves is relevant (see  
only Federal Supreme Court (BGH), judgment of November 3, 2020 - X ZR 85/19,  
GRUR 2021, 462 para. 49 - Fensterflügel; judgment of April 24, 2018 - X ZR  
50/16, GRUR 2018, 1128 para. 12 - Gurtstraffer).

13           Feature a does not contain any further specifications. It is therefore  
sufficient for this characteristic to be fulfilled if the housing is suitable for  
accommodating a lock or parts thereof.

14           b)     In order to ensure a stable electrical connection between the  
microswitches (6) arranged in the housing and the associated connection  
devices (8), which is insensitive to vibrations, the features f' to l" provide for a  
special design of the connection conductors (9) and a design of the connection  
devices (8) matched thereto.

15           aa)    According to feature f', the connecting conductors (9) are spring-  
loaded.

16           The patent in suit thus chooses a different approach than the citation  
NKL2 mentioned in the description, in which - as an option - the connecting devices  
are spring-loaded. According to the description, the arrangement of the elements  
with spring action in the area of the connecting conductors enables a particularly  
simple manufacturing (para. 4 sp. 2 lines 5-10).

17           bb) An additional measure to protect the connection and the  
microswitches from occurring vibrations is the design of the connecting  
conductors defined in features g1, g2 and l", which are designed as strips of sheet  
conductor, emerge orthogonally from the microswitch (6) and have a contact end  
angled approximately parallel to the joining direction with a spring-open clamping  
recess (13).

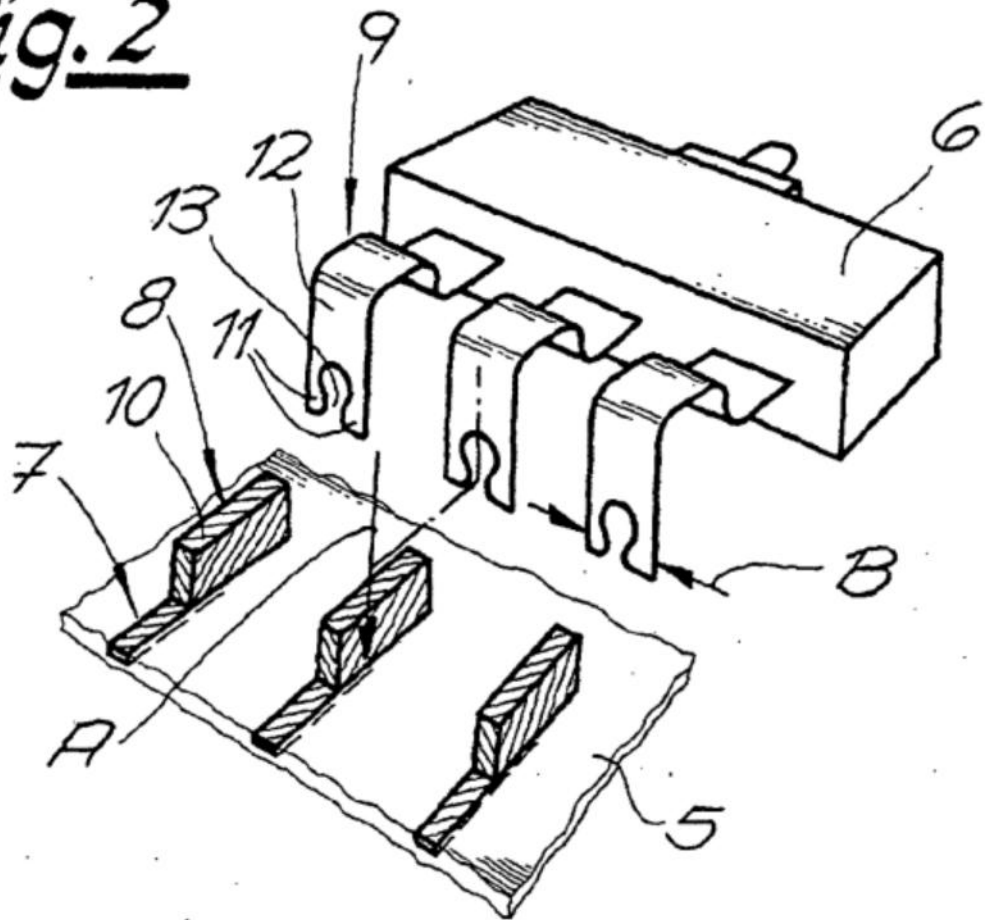
18           This design allows the conductors to absorb forces acting perpendicular  
to the joining direction and to keep them away from the connecting devices (8)  
and the microswitches (6).

19           cc) The spring action of the connecting conductors (9), which is  
aligned approximately orthogonally to the joining direction in accordance with  
feature h', enables a secure connection to the connecting devices (8), which are  
designed as vertically upstanding contact webs (10) in accordance with feature j.

20           dd) The resilient clamping recess (13) formed at the contact end (12)  
in the sense of feature l" is an open area at the end of the conductor sheet strip  
(9), which is designed in such a way that the material surrounding the recess can  
develop a clamping effect.

21           Such an embodiment is exemplified in Figure 2 reproduced below.

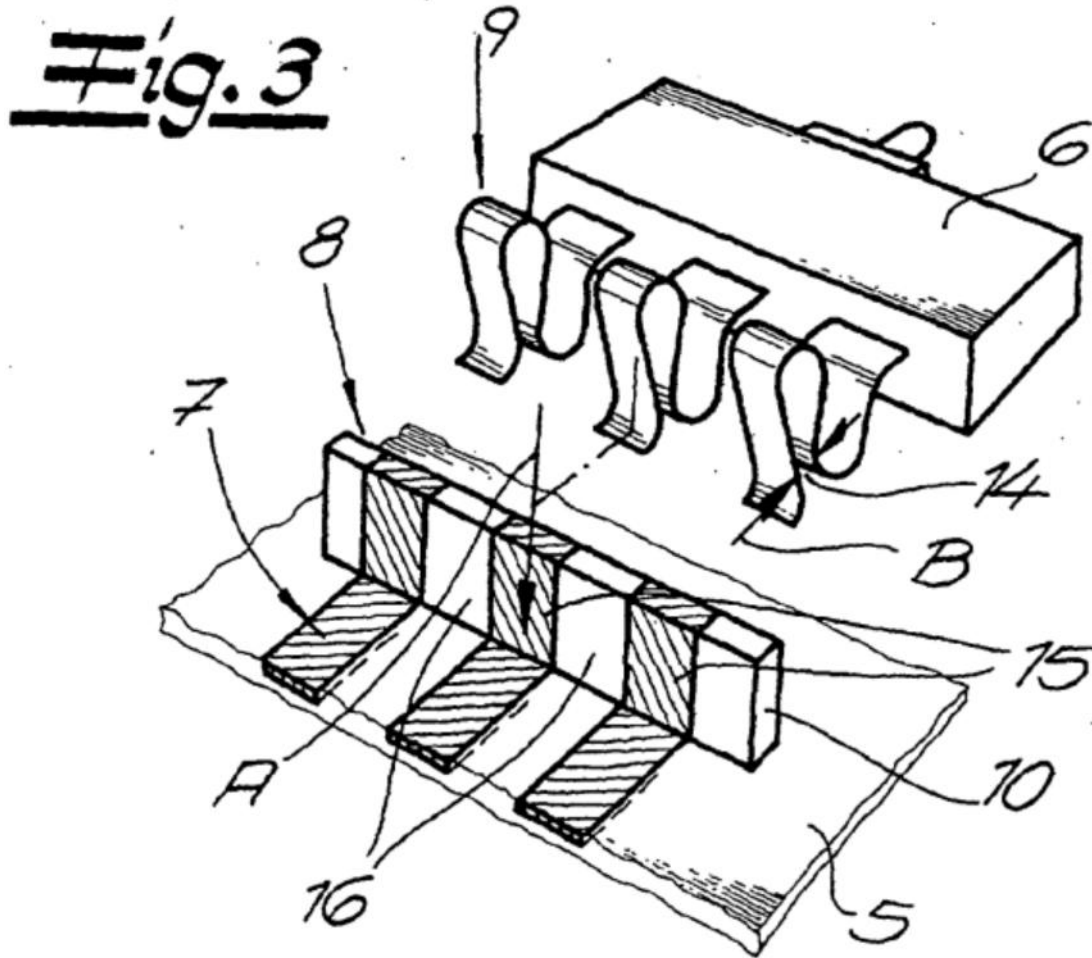
Fig. 2



22                    The connecting conductors (9) each have a resilient recess (13) at their contact end (12), which is angled parallel to the joining direction and can be plugged onto the contact webs (10) (par. 12).



23 ee) Feature I" thus delimits the subject-matter of the patent in suit from an embodiment as shown by way of example in Figure 3 reproduced below.



24 In this embodiment, the conductor strips (9) are designed without a recess over their entire length. The clamping effect is achieved in that the connecting strips have a bend which forms a clamping area (14) open in the joining direction (par. 12).

25 This embodiment is protected by patent claim 7, which is not in suit.

26 ff) As the Patent Court correctly assumed, the clamping recess (13) is omega-shaped in the sense of feature I" if it has a closed, round upper side and two likewise round side regions and there is a narrow point on the lower side which opens again in the further course.

27 (1) Such a shape, modeled on the Greek capital letter Omega ( $\Omega$ ), is shown in Figure 2 of the patent in suit, as the Patent Court also correctly assumed.

28 The fact that this shape is described as tulip-shaped in the description (Sp. 5 lines 1-3) was rightly considered irrelevant by the Patent Court.

29 It can be left open whether and how the term "tulip-shaped" in the language of the patent in suit can be distinguished from the term "omega-shaped". In any case, it is sufficiently clear from the context that an omega-shaped design must have all the above-mentioned partial features. Thus, it is not sufficient if the side areas are essentially straight or if the diameter of the opening does not increase again following the narrowing.

30 (2) This understanding is confirmed by the explanations to figure 3, which expressly describe the course of the spring elements shown there as omega-shaped (para. 12 lines 4-7).

31 In this context, it is irrelevant that this embodiment has no clamping recess in the sense of feature I" and that the omega-shaped cross-section runs in a different plane than in the embodiment shown in Figure 2. What is decisive is that in Figure 3, too, the area with which the spring force is generated has the above-mentioned form elements of an omega, without any relevant differences from the form of the clamping recess in Figure 2 being discernible in this respect.

32           II.     The Patent Court gave the following main reasons for its  
decision, insofar as they are of interest to the appeal:

33           The defense of the patent in suit in the version of the first instance  
auxiliary request VIII was admissible. There was neither an inadmissible extension  
compared to the originally filed documents nor an extension of the scope of  
protection compared to the granted version. Moreover, the invention was disclosed  
in such a way that the skilled person, a mechatronic engineer with a university  
degree entrusted with the development of motor vehicle locking systems, could  
carry it out.

34           The subject matter defended by auxiliary request VIII was also  
patentable. It is true that features a, b', c', d, e', f', g', h', i, j and k are disclosed in  
NKL2 or at least suggested by a combination of NKL2 with the German  
interpretative document 1 129 580 (NKL17). However, an omega-shaped design  
of the connecting conductors according to feature "l" is new and not suggested.

35           NKL17 discloses an almost rectangular clamping recess with arms  
arranged parallel to each other and delimiting the recess. The combination of  
NKL2 and NKL17 also gives no reason to make the clamping recess omega-  
shaped instead.

36           The German patent application 196 25 276 (NKL5) discloses an electrical  
component with resilient, U-shaped connecting conductors which are formed  
according to the features g', h', i and k. However, the connecting conductors do not  
have a contact end angled in parallel with an omega-shaped clamping recess  
according to feature "l". However, the connecting conductors do not have a contact  
end angled parallel to the joining direction with an omega-shaped clamping recess  
according to feature "l". Instead, the contact end of the NKL5 connecting conductors  
is angled perpendicular to the joining direction due to the U-shaped design of the  
connecting conductors. This was the central feature of the teaching of NKL5, with  
which, in accordance with the task of NKL5, it was to be achieved that the  
component could be contacted safely from different directions. Therefore, there

was no reason to replace the U-shaped connecting conductor by an L-shaped connecting conductor as provided for in the patent in suit.

37                   The German translation of the European patent specification 539 094 (DE 692 09 769 T2, NKL6) discloses in figures 1 to 4 a small motor with a connection unit formed of insulating material and a conductive connection member inserted therein, which has the form of a curved piece, in the end of which a recess is made for holding a printed circuit board. Based on NKL2, there is no reason to replace the connecting conductor disclosed in Figure 3 of NKL2 with the connecting member of a small motor disclosed in NKL6 and designed for holding a printed circuit board.

38                   III.       This assessment withstands appellate review as a result.

39                   1)       The defense of the patent in suit in the version of the first instance auxiliary request VIII is admissible.

40                   a)       According to the case law of the Senate, however, it is inadmissible to defend a patent claim attacked with a partial invalidity action in a limited manner by combining it with the features of a subclaim that is not attacked (Federal Supreme Court (BGH), judgment of March 1, 2017 - X ZR 10/15, GRUR 2017, 604 para. 27 et seq. - Ankopplungssystem).

41                   b)       However, these requirements are not met in the case in dispute.

42                   As has already been explained above, the defended subject matter relates to embodiments in which the connecting conductors have a clamping recess at the contact end. Such an embodiment is shown by way of example in Figure 2. In contrast, claim 7 protects embodiments in which the connecting conductors are formed as connecting strips with a clamping region (14) open in the joining direction, as in Figure 3. Such a design is excluded by feature I".

43                   2)     The Patent Court rightly considered the invention as defended by  
the first instance auxiliary request VIII as sufficiently disclosed.

44                   This is not attacked by the appeal.

45                   3.     Also correctly, the Patent Court held that NKL2 does not fully  
disclose the defended subject matter.

46                   (a)    NKL2 discloses an automotive door latch having electrical  
components.

47                   The door latch has, among other things, a lock housing (3) with electrical  
components (6) which are provided with connecting conductors (9) and are  
connected via electrical lines (7) to contact devices (8) for integration into  
electrical circuits (Sp. 1 lines 44-52; Sp. 2 lines 57-65).

48                   The lock housing (3) can be made of injection molded plastic as a whole  
or in individual areas (Sp. 2 lines 22-25) and expediently has a reinforcement (Sp.  
3 lines 24-25).

49                   The electrical leads (7) are embedded by injection molding in areas of the  
lock housing consisting of injection molding plastic. They can, for example, be  
inserted into the injection mold for the lock housing in the form of sheet metal strips  
or wires (Sp. 2 lines 26-30). NKL2 recommends arranging the wires in such a way  
that they can be used as reinforcing elements and thus simultaneously fulfill a  
reinforcing function (Sp. 2 Z. 30-33; Sp. 3 Z. 25-27). In the embodiment example  
described as preferred, the electrical lines start from a distributor element (14) and  
belong to a line comb (13) with sheet metal strips (7) embedded in the injection  
molded plastic of the housing, while they are separated from each other in the area  
of the electrical components (6) (Sp. 2 lines 33-42; Sp. 3 lines 18-33).

50

In this area, the electrical lines (7) are provided with connection formations (10) or connection devices for the connection conductors (9) of the electrical components (6). Possible embodiments of the connection formations (10) or connection devices are shown in Figures 2, 3 and 4 reproduced below, in which the electrical components (6) are switches (Sp. 3 lines 1-6; lines 16-18).

Fig. 2

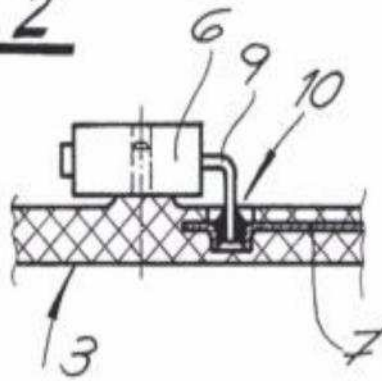


Fig. 3

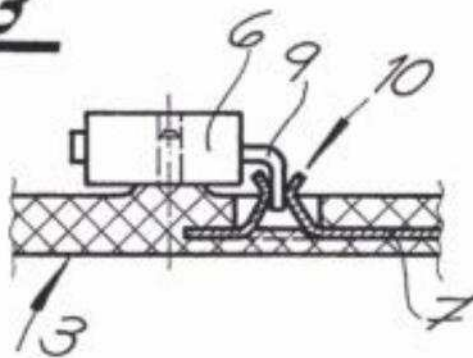
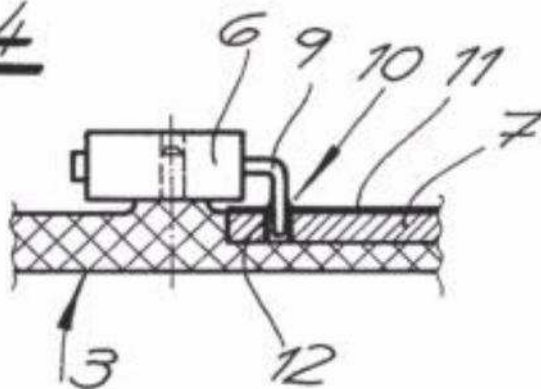


Fig. 4



51                   Figure 2 shows a connection in the form of a soldering sleeve (10) (Sp. 3 lines 6-7). Figure 3 shows a connection in the form of resilient lips (10) (Sp. 3 Z. 8). In Figure 4, the lead (7) consisting of a galvanically conductive plastic is provided with a metallically conductive support (11), to which the connecting lead (9) inserted into the bore (12) of the support (11) may be soldered or welded (Sp. 3 lines 8-16).

52                   As possible embodiments for the connecting conductors (9), NKL2 mentions, for example, connecting lugs, connecting terminals or connecting wires (Sp. 1 lines 17-19).

53                   b)       Thus, as the defendant also does not doubt, features a, b', c', d and e' are disclosed.

54                   c)       Disclosed is further the feature group g.

55                   In all three figures reproduced above, the connecting conductors emerge from the electrical component (6) in a horizontal direction and thus perpendicular to the joining direction.

56                   d)       As the plaintiff does not dispute, the features h' to l" are not disclosed.

57                   e)       In view of this, it can remain open whether feature f' is to be regarded as disclosed because - as the Patent Court assumed - a resilient design of the connecting conductors (9) of the electrical components (6) results from the fact that, according to the NKL2, connecting terminals (9), among other things, can be considered as connecting conductors.

58                   4.       The Patent Court correctly concluded that the defended subject matter, starting from NKL2, was also not suggested by a combination with NKL17, NKL5 or NKL6.

59           a)     By NKL17 it was not suggested that the clamping recesses  
should be omega-shaped in the sense of feature I".

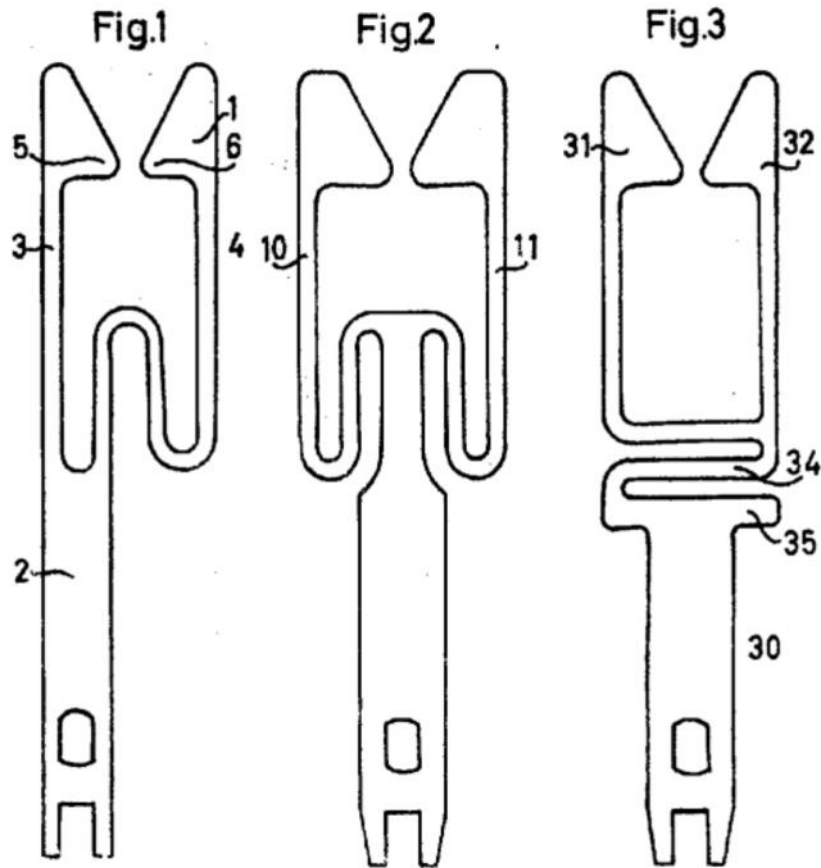
60           aa)    NKL17 discloses plug-in contact springs in contact rows, in  
particular for contacting contact areas, on boards provided with printed circuits.

61           NKL17, similar to the patent in suit, deals with the task of designing  
contact springs in such a way that they absorb force effects from the connection  
side without overstressing and yet have only a low overall height (Sp. 1 lines 33-  
38).

62           The solution proposed in NKL17 is based on known plug-in contact  
springs. In these, the contact part consists of a spring leaf with two arms which  
are approximately parallel at their ends and which each have an inwardly directed  
projection in the area of their outer ends, at least one of which serves for  
contacting (Sp. 2 lines 23-32). In known springs the spring leaves are curved by  
bending (Sp. 2 Z. 33-37). As an improvement, NKL17 proposes to design the  
spring in such a way that the plane of the spring leaf is perpendicular to the  
contact surface and at least one arm of the contact part is curved in an S-shape  
(Sp. 2 Z. 44-48).

63           Examples of such an embodiment are shown in Figures 1 to 3  
reproduced below.





64           bb) Whether, on the basis of NKL2, there was reason to refer additionally to NKL17 and whether the features h' to k were suggested by this citation can be left open. In any case, even if NKL17 was used, it was not obvious to design the clamping recess omega-shaped in the sense of feature "l".

65           (1) As the plaintiff does not fail to recognize in its approach, the clamping recesses disclosed in NKL17 are not omega-shaped.

66           However, the embodiments shown in Figures 1 to 3 have similarities with an omega (turned upside down) in that the narrowest point is followed by a region in which the diameter of the opening increases again. In addition, the recesses at the transition between the end faces and the side regions reveal curves.

67                    However, the side areas are not rounded. Rather, they run in a straight  
line.

68                    The end face in Figure 3 is also straight. In Figures 1 and 2, it has a  
meandering course, which also does not correspond to the shape typical of an  
omega.

69                    (2)     Based on this, there was no suggestion to change the shape of  
the recess to correspond to an omega.

70                    To achieve an omega shape from the configuration shown in Figure 3,  
which comes closest to an omega, the two sheet metal strips bounding the recess  
would have to be bent in a different way or become continuously wider towards  
the end face and the opening. A suggestion to redesign the recesses in this way  
is not apparent from NK17.

71                    (3)     Contrary to the plaintiff's opinion, such a modification based on  
NK17 does not represent a technically arbitrary and, for this reason alone,  
obvious design.

72                    (a)     According to the case law of the Senate, an inventive step cannot  
be based on a feature that represents an arbitrary selection from several  
possibilities detached from a specific technical purpose (Federal Supreme Court  
(BGH), judgment of May 22, 2007 - X ZR 56/03, GRUR 2008, 56 para. 25 -  
Injectable microfoam; judgment of November 27, 2018 - X ZR 41/17, para. 46).

73                    The specification of an omega shape provided in feature "I" does not  
constitute an arbitrary selection in this sense.

74                    According to the plaintiff's arguments, which are not disputed in this  
respect, the type and degree of clamping force are not determined solely by the  
shape of the recess, but also by a large number of other parameters, such as the  
type and thickness of the material. However, as the plaintiff has not disputed, the  
shape is one of the parameters that is important in this respect.

75           The curves typical of an omega result in a special type of force distribution that does not occur in the same way with other shapes. Against this background, the selection of this shape cannot be considered arbitrary.

76           (b)    Special advantages associated with a feature can only be used for reasons of inventive step if they are disclosed in the patent specification or are recognizable to a person skilled in the art (Federal Supreme Court (BGH), judgment of November 27, 2018 - X ZR 41/17, para. 46).

77           This requirement is met in the case in dispute.

78           The connections shown above between the shape of the recess and the type of spring action are not explicitly shown in the description of the patent in suit. However, they are part of the general technical knowledge and are therefore recognizable.

79           b)    NKL5 also did not suggest providing the connecting conductors with an omega-shaped clamping recess.

80           aa)   NKL5 deals with the task of designing a terminal connector in such a way that outlets to contacts or conductors are possible in different directions (Sp. 1 Z. 50-53).

81           NKL5 is based on known, essentially flat, U-shaped clamping plugs in which the two free limbs form a clamping receptacle for a contact surface and have clamping jaws between which the contact surface of a contact, for example a conductor track, is clamped in an electrically conductive manner. In this embodiment, the contact surface can be mounted in the clamping receptacle of

the clamping plug from only one direction. Therefore, the plugs cannot be used in many different ways (Sp. 1 Z. 31-39).

82 To solve this, NKL5 suggests changing the shape of both the terminal plug and the terminal recess.

83 In a first embodiment, shown in Figure 1 reproduced below, the clamping connector is a strip bent through approximately 180° and forms a U-shaped angle.

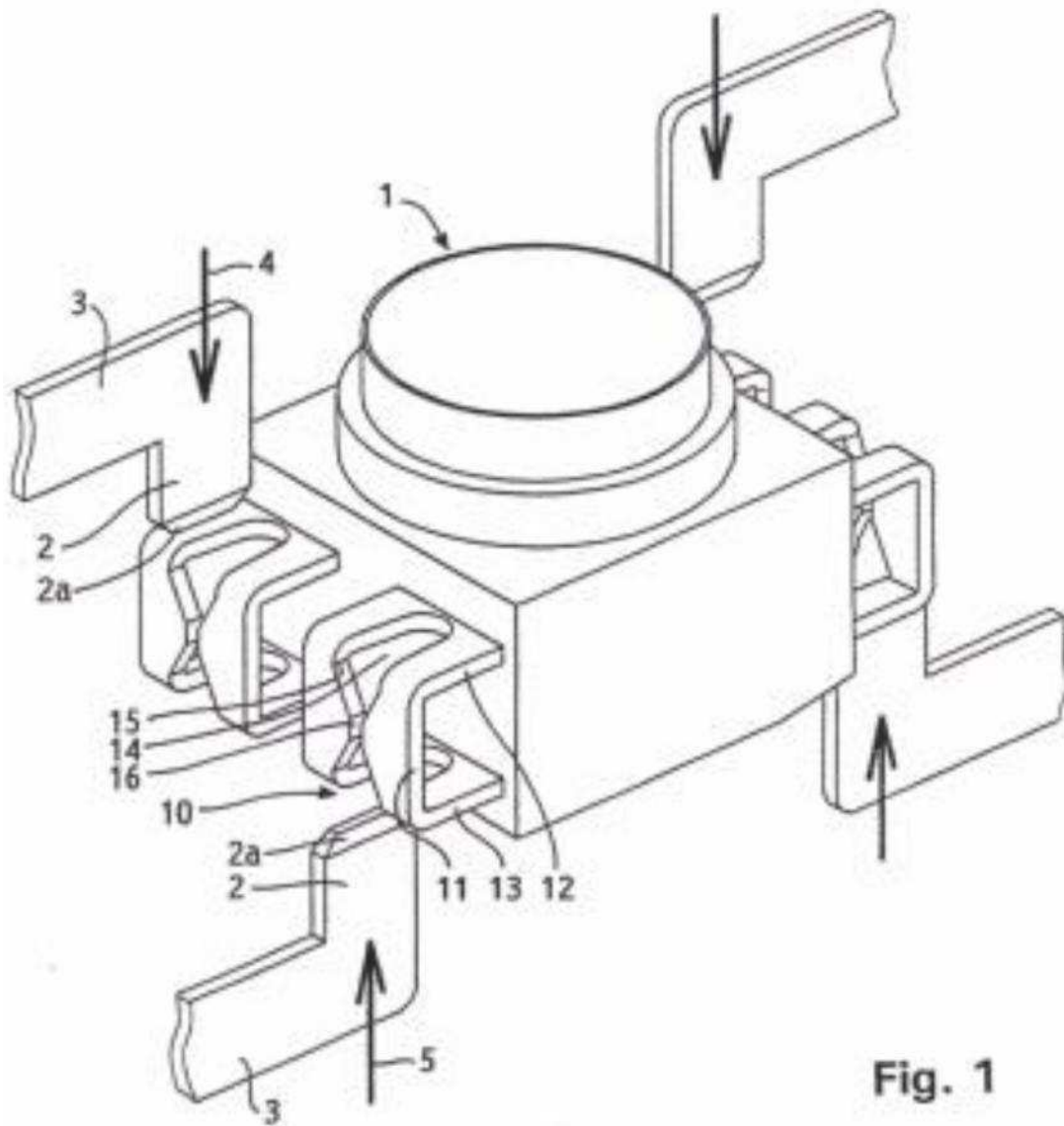


Fig. 1

84           The two outer limbs (12, 13) of the clamping plug (10) are firmly connected to the component (1). A clamping recess (14) is provided in the base (11) of the clamping plug in the circumferential direction, which also continues into the two limbs (12, 13) and tapers in the base (11) on both sides via inclined surfaces (15) towards its center to form two clamping jaws (16) (Sp. 3 lines 43-53).

85           According to the explanations in NKL5, the length, width and shape of the clamping recess (14) are selected so that the clamping area of the clamping plug defined by the clamping jaws (16) is on the one hand sufficiently elastic to allow insertion of the contact surface (2), but on the other hand firmly clasps the inserted contact surface. The insertion chamfers (2a) on the contact surface are intended to facilitate spreading of the clamping jaws when the contact surface is inserted (Sp. 3 lines 56-65).

86           This design allows contact pads of conductive tracks (3) to be inserted into the clamping recess of the clamping connector from above (direction of arrow 4) or from below (direction of arrow 5) and at any angle in between (Sp. 3 line 66 to Sp. 4 line 4).

87           bb)   Thus, feature "I" is neither disclosed nor suggested.

88           It can be left open whether the partial areas of the recess (14) which extend from the area of one of the limbs (12, 13) to beyond the center of the base (11) are omega-shaped or U-shaped. In any case, the recess formed in this manner is not formed at an angled contact end of a connecting conductor. Rather, part of it is arranged in that region which emerges from the connector orthogonally to the joining direction.

89           cc)   A suggestion to modify this design in the sense of feature "I" does not result from NKL5.

90           In NKL5, the shape of the openings serves the purpose of enabling insertion from different directions. For this purpose, it is essential that the openings are arranged both in the area of the base (11) and in the area of the limbs

(12, 13). There were no indications that a recess with a comparable shape could also be provided at an angled contact end of a connecting conductor.

91                   c)     NKL6 also did not suggest that the clamping recess should be designed in accordance with feature I".

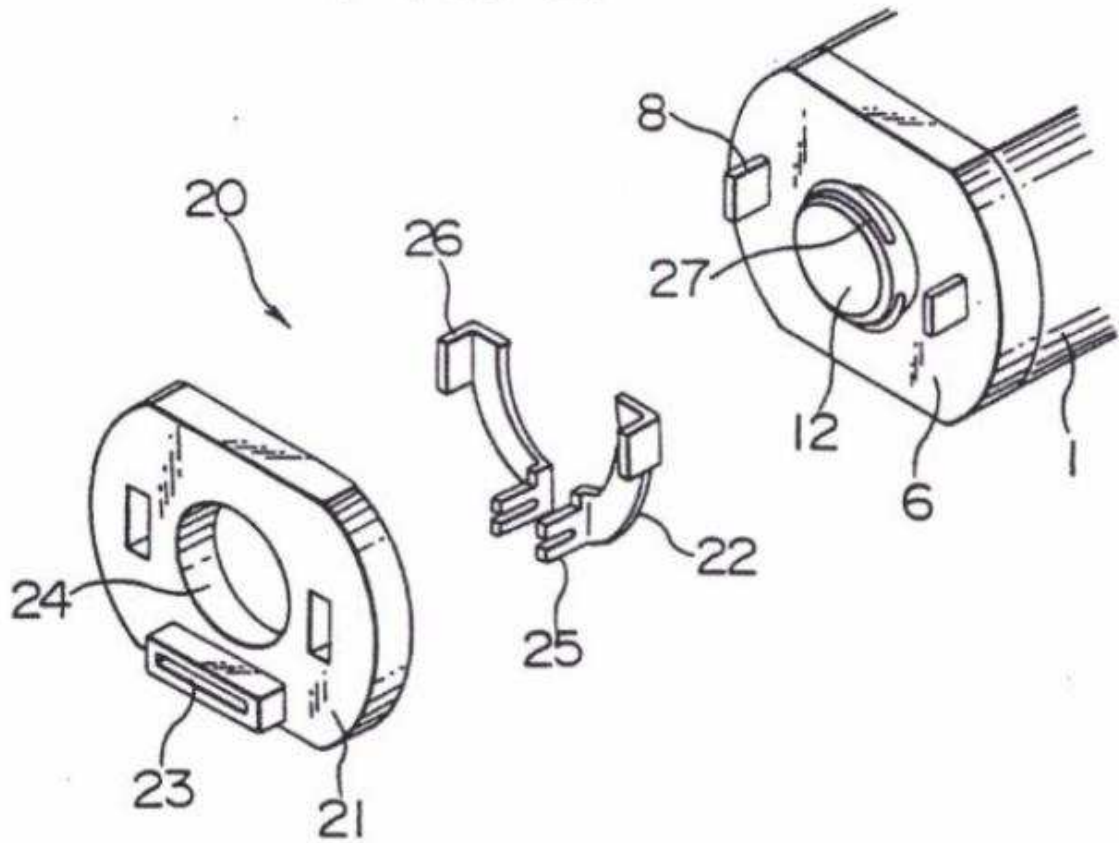
92                   aa)    NKL6 discloses a small electric motor with a cylindrical housing and a permanent magnet, in which current is supplied to the rotor of the motor via a printed circuit board.

93                   The citation deals with the task of being able to connect the printed circuit board to the motor's terminals as easily as possible from an assembly point of view and without taking up a lot of space.

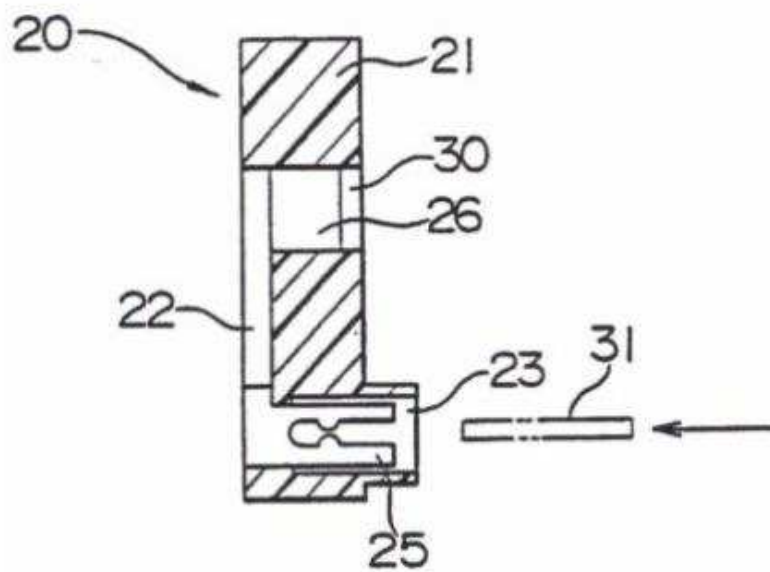
94                   To solve this, NKL6 proposes a connection unit for the PCB, which has a body with connecting links and is mounted on the terminals.

95                   An example of an embodiment is shown in the figures reproduced below, with Figure 2 illustrating the installation of the connecting unit according to the invention and Figure 4 showing the connecting unit in cross-section.

# FIG. 2



# FIG. 4



96           The body (21) of the connection unit (20) is made of insulating material and corresponds in its contour essentially to the end plate (6) closing the motor housing. The connecting links (22) are made of electrically conductive material and are of arcuate design corresponding to the shape of the body (21). At each end of the connecting links (22) there is a fastening piece (25) and a contact (26) for establishing the electrical connection with the terminals (8). The fastening pieces (25) cooperate to form a support for the printed circuit board (31), which is mounted in the recess (31). Due to the elastic deformability of the fastening pieces (25), the printed circuit board (31) is held in position with appropriate pressure (p. 5 par. 2 and 4).

97           bb)   The fastening piece shown in Figure 4 may be regarded as mega-shaped. However, this did not give rise to the suggestion that this shape should also be provided on an angled contact end of a connecting conductor.

98           IV.    The subject matter defended on appeal, based on NKL2, is also not suggested by the additional citations submitted on appeal.

99           1.The German disclosure document 195 12 277 (NKL21) does not give rise to any further suggestions than the citations discussed above.

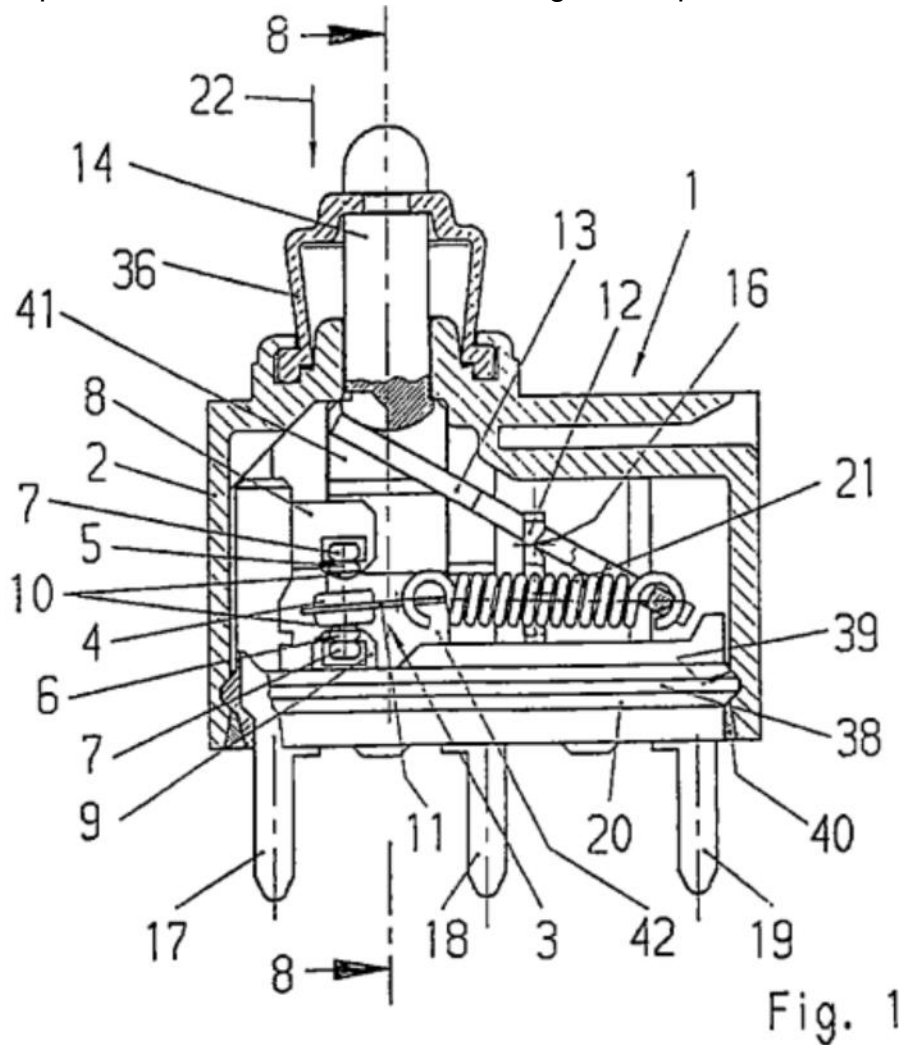
100          a)    NKL21 discloses an electrical switch and a method of manufacturing the same.

101          NKL21 states that known switches are not very suitable for small installation spaces because the arrangement of the fixed contacts results in an elongated structure (Sp. 1 line 27-36). As a solution, NKL21 proposes to make the contact system more compact.



102

An example of an embodiment is shown in Figure 1 reproduced below.



103

The contact system (3) arranged in the housing (2) of the switch (1) consists of two fixed contacts (5, 6) and one switching contact (4). On the base (20) of the housing (2), among other things, three electrical connections (17, 18, 19) projecting from the housing (2) are arranged for supplying the electrical energy (Sp. 4 lines 33-53).

104

Another embodiment, with specially designed connections, is shown in Figure 12 reproduced below.

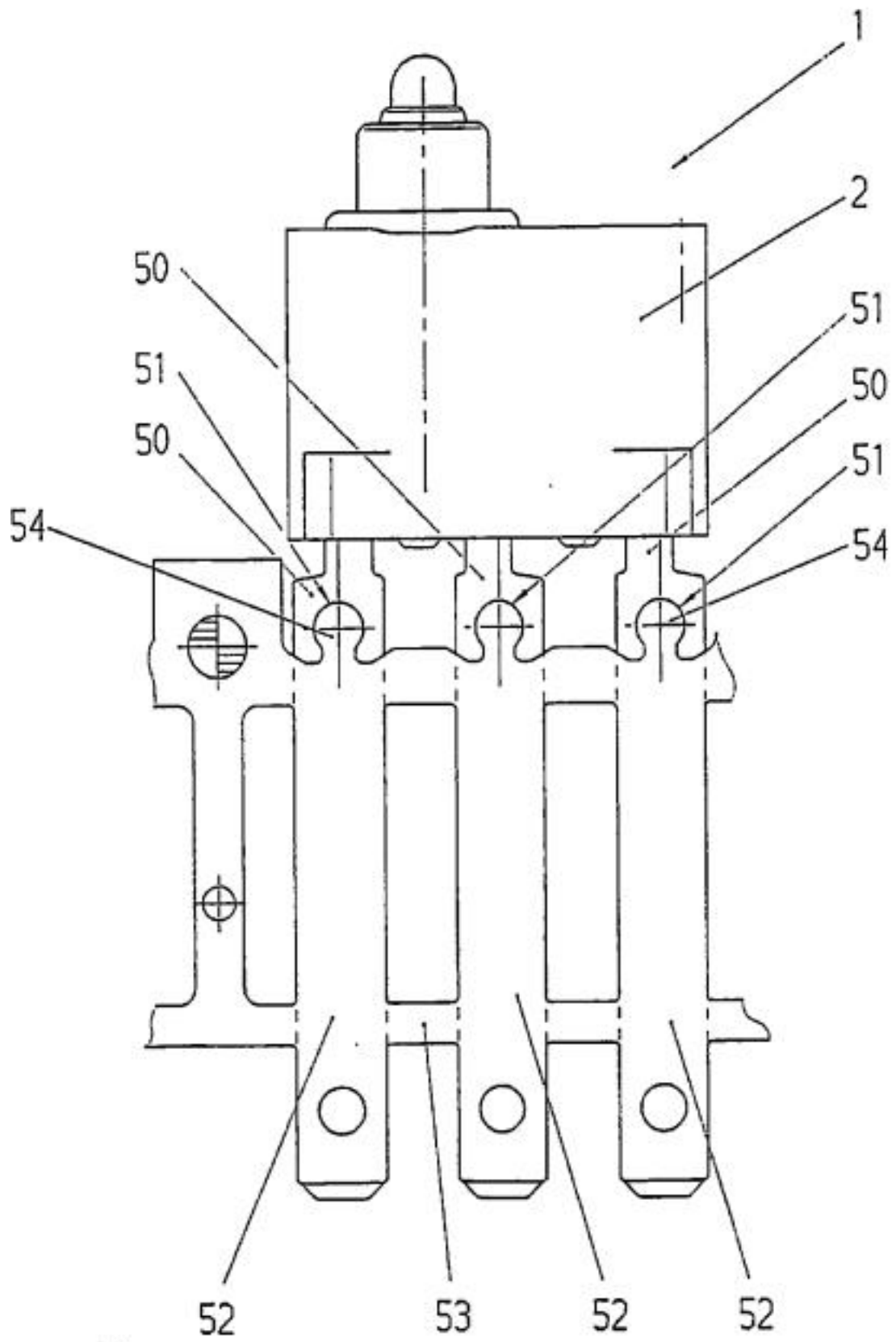


Fig.12

105           The connections projecting from the housing (2) are formed as lugs (50) with a receptacle (51) which has an approximately circular shape. Head parts (54) corresponding to the receptacles (51) are attached to the terminal lugs (52). The head parts (54) can be inserted in the receptacles (51) in a form-fit or force-fit manner and can still be welded there if necessary (Sp. 9 lines 32-47).

106           b)     Thus, an omega-shaped recess as in Figure 2 of the patent in suit is disclosed. However, NKL21 does not immediately and unambiguously indicate that the omega-shaped opening is inserted vertically from above over the receptacle.

107           The description of NKL21 does not specify how the two parts are joined together. As the defendant rightly asserts, the joining may in any case be done in such a way that the two parts are engaged in a manner similar to two puzzle pieces. In addition, it may be possible to put them on top of each other in the manner depicted by the plaintiff. However, in the absence of express information on this, no clear and direct disclosure can be inferred from NKL21 in this respect.

108           c)     NKL21 also did not suggest that the electrical connections and the corresponding terminal lugs should be connected in this way.

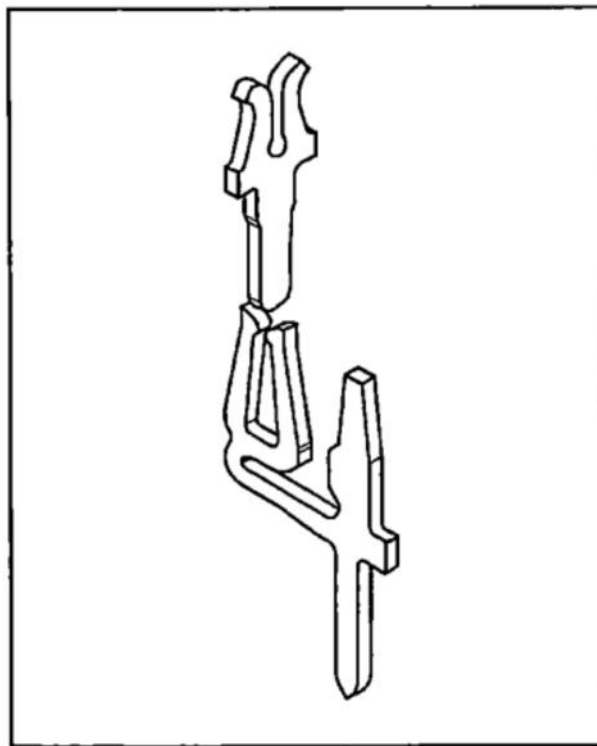
109           In this context, too, it is not sufficient that this type of joining is possible. Rather, it would require a suggestion to select just this type. Such a suggestion did not result from NKL21, because the head parts (54), which are complementary to the omega shape of the receptacles (51) - in contrast to the cuboid contact bars (10) shown in Figure 2 of the patent in suit - in any case made it considerably more difficult to fit them together from above.

110                   2       The publication by van Dijk and van Meijl (Contact Problems Due  
to Fretting and Their Solutions, AMP Journal of Technology 1996, 14, NKL22)  
also does not provide any further suggestions.

111                   aa) NKL22 deals with friction wear in electrical and electronic contacts.  
This can occur when parts of a connector move relative to each other (p. 1).

112                   As a solution, NKL22 proposes, among other things, to make the mating  
parts of the connection elastic enough so that the corresponding parts move  
together (p. 17 r. sp. under "Summary and Conclusions").

113                   An example of such a contact system is shown in Figure 1 reproduced  
below.



**Figure 1.** The Micro-MaTch™ contact system.

114                   bb)    The upper of the two connecting parts does have a recess whose  
shape is reminiscent of an elongated omega.

115                   However, this did not result in any specific suggestion to consider this  
shape as an alternative to the connection types disclosed in NKL2 or NKL17,  
especially since this recess does not serve to connect the two parts shown in  
Figure 1.

116                   V.     The decision on costs is based on Sec. 121 (2) Patent Act and  
Sec. 97 (1) Code of Civil Procedure (ZPO).

Bacher

Kober-Dehm

Marx

Rombach

Rensen

Lower court:

Federal Patent Court, decision of 19.04.2021 - 2 Ni 30/20 (EP) -