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D E C I S I O N
of 9 June 1998

Case Number: T 1019/96 - 3.2.3

Application Number: 89202843.2

Publication Number: 0369532

IPC: E05D 5/02

Language of the proceedings: EN

Title of invention:
Quick coupling door hinge

Patentee:
Ferrari, Franco

Opponent:
Arturo Salice S.p.A.

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no)"

Decisions cited:
-

Catchword:
-

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Case Number: T 1019/96 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 9 June 1998

Appellant: (Opponent)
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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted 24 September 1996 concerning maintenance of European patent No. 0 369 532 in amended form.**

Composition of the Board:

Chairman: C. T. Wilson
Members: J. du Pouget de Nadaillac
B. J. Schachenmann

Summary of Facts and Submissions

I. The present appeal is directed against the decision posted 24 September 1996 of the Opposition Division, which maintained in amended form the European patent No. 0 369 532. The Opposition Division held that the claimed subject-matter was novel and involved an inventive step in view of the prior art documents submitted by the opponent.

II. The appellant (opponent) filed the appeal together with the Statement of Grounds of Appeal on 21 November 1996, paying the appeal fee at the same time. In the statement, he maintained his objection of lack of inventive step.

The respondent (proprietor of the patent in suit) replied by a letter received on 9 April 1997.

III. In the Annex to the invitation to oral proceedings, subsidiarily requested by both parties, the Board of Appeal drew the attention to document WO 89/05387 (= PCT/EP 88/01044, hereinafter referred to as E3), cited in the search report and on page 1 of the patent in suit. The Board expressed the provisional opinion that this document was novelty-destroying as to some embodiments of the patent in suit. Further, the choice of the closest prior art and the inventive step implied by the subject-matter of Claim 1 in the maintained version were put in question.

IV. Oral proceedings took place on 9 June 1998. During these proceedings, the respondent filed a new claim 1 as main request, the subject-matter of this claim being restricted to the first two embodiments of the patent in suit.

V. Said claim 1 reads as follows:

"1. A furniture door hinge (10, 110) of the type in which a wing (12, 112) is designed to be connected to a base (11, 111) secured to the piece of furniture, the wing (12, 112) having a substantially U-shaped cross-sectional configuration, to form two lateral walls which laterally embrace an intermediate element (13, 113) connecting the wing (12, 112) to the base (11, 111), also having a substantially U-shaped cross-sectional configuration to form two rigid sides which laterally embrace the base (11, 111), the intermediate element (13, 113) is provided with fastening means (15, 16, 115, 116) for securing it to the wing (12, 112), and unfastenable means which connect it to the base and comprise members (20, 21, 40, 41) yieldingly fitted onto the intermediate element (13, 113) in two portions spaced apart from each other in the longitudinal direction of the wing (12, 112) elastically biased to move into a position in which they engage with complementary housings (35, 36, 135, 136) in the base (11, 111) in order to couple the intermediate element (13, 113) to the latter, complementary supporting surfaces (30, 37, 130, 137, 222, 223) being provided between the intermediate element (13, 113) and the base (11, 111) which determine the reciprocal longitudinal position, whereby the yielding members (20, 21, 40, 41) fitted in at least one of the two positions longitudinally spaced apart from each other being provided with a portion (20, 44) projecting outwardly the wing, which can be gripped to move the yielding member out of the complementary housing in order to force the yielding member (20, 41) to disengage from the housing (35, 135) in the base (11, 111), the reciprocal transversal position between the intermediate element and the base

being determined by said two rigid sides of the intermediate element, the yielding members comprising a pair of yielding members (20, 21, 40, 41) being elastically biased in opposed directions to each other along the longitudinal direction of the wing."

VI. During these proceedings, the following prior art documents cited either in the examination or in the opposition proceedings were considered:

E1: WO-A-86/02402
E3: WO-A-89/05387
D1: DE-C-3 627 170
D2: US-A-3 969 787

VII. The appellant argued that the subject-matter of this claim lacks novelty or does not involve an inventive step, submitting the following arguments:

Document D2 is analysed in the description of the document D1. Therefore, its content is to be considered as belonging to the disclosure of D1. As a consequence, the two movable hooks according to D2 constitute a possible embodiment of the hinge according to D1. Thus, the hinge as claimed in the patent in suit is anticipated.

If it be supposed that the device is new, then document D1 represents the nearest prior art and the only distinguishing feature is the last feature of claim 1. The citation D2, however, teaches to employ two movable hooks biased in opposed directions to each other to quickly mount the wing together with the intermediate element onto the base of the hinge. No inventive step can be seen in the replacement of the

hooks known from D1 by the hooks according to D2. The fact that the hinge according to D2 is not dismountable without tools is not relevant, since D1 already has solved this secondary problem. The same observations apply, when combining E1 with D2.

VIII. The respondent defended the present invention by arguing as follows:

The number of cited publications shows how it is difficult to find the appropriate solution for this problem of coupling the arm of a hinge on the base.

The object underlying the present invention is to provide a hinge, the wing of which can be coupled onto the base, whatever the directions of the movements for coupling are, so that it is possible to mount a heavy door in a few movements, for example three movements for a door having three hinges.

In contrast, the hinge according to D1 requires the parts of all the hinges to be kept parallel to each other during their coupling, since otherwise the hook members cannot engage into their seats. Since both hook members are yieldingly thrust in the same direction, they do not provide a mutual self-centering, and a guide element has to maintain the two parts of the hinge in the correct position to allow the rigidly predetermined movement for coupling, namely a movement perpendicular to the base. The mounting of a door with several hinges is only possible by carrying out very precise movements to couple all hinges. As soon as the hook members of one hinge are engaged, it is no longer possible to orient the other hinges.

This problem remains also having regard to the hinge according to document D2, since, here too, a precise perpendicular movement is needed to couple the two elements of the hinge. Moreover, the object of this prior art is remote from that of the present invention, since hook members are provided for allowing an adjustment of the height of the hinge relative to the piece of furniture. A quick coupling of the hinge parts without tools is not envisaged in this prior art, since for their fastening it is necessary to tighten up a central screw. Disengagement of both hinge parts is also not possible without the use of tools. A person skilled in the art would therefore not consider this citation, since it does not deal with the problem underlying the patent in suit, describes a non-dismounting hinge and, finally, requires a rigidly predetermined movement from above to couple the hinge parts. At least three or four non-obvious steps are required to modify the hinge according to D2 in order to arrive at the present invention. The whole shape is to be modified, since gaps are to be provided at the longitudinal ends of the wing part, the longitudinal walls must be retracted towards the longitudinal axis, and gripping means for disengagement purpose are to be provided.

The teaching of citation E1 also does not direct the skilled person to the present solution, since the coupling procedure disclosed in this prior art requires a sequence of three defined movements, namely the introduction of the pin in its recess at one longitudinal end of the base, a rotation of the wing part about this pin and, finally, a perpendicular push to snap the hook members into place. These sequential

movements render impossible the mounting of a door having several hinges. The combination of the rigidly predetermined movement according to D2 with the teaching of this last document, which asks for a sequence of movements, is illogical.

IX. The appellant requested that the decision under appeal be set aside and that the European patent No. 0 369 532 be revoked.

The respondent requested that the appeal be dismissed and that the patent be maintained on the basis of amended claim 1 filed during the oral proceedings.

Reasons for the Decision

1. The appeal is admissible.

2. The new claim 1 in substance corresponds to the claim 1 as maintained by the Opposition Division. The amendments brought concern the references numbers of the embodiments according to Figures 9 to 18 of the patent in suit which are deleted and further, in the last feature of the claim, the term "at least", which is also deleted so that the yielding members comprise **a pair** of yielding members. At the end of this claim, it is moreover added that the yielding members are elastically biased in opposed directions to each other **along the longitudinal direction of the wing.**

These last two amendments, which restrict the subject-matter of the claim, are supported by the first two embodiments according to Figures 1 to 8 of the patent in suit. Thus, this claim is admissible having regard to Article 123 EPC.

3. None of the prior art citations shows all the features of this claim, so that its subject-matter is new (Article 54 EPC). This issue was not disputed.

4. In the hinge according to D1, the hook members have their hooking ends directed in the same direction and are rigidly fixed onto a plate, which is slidingly mounted in an intermediate member and is biased in one longitudinal direction of the hinge by a spring. This construction is rather complicated. In contrast, the hinge according to Figures 30 to 32 of E1 comprises, at one longitudinal end of the wing part, a fixed pin for engagement in a corresponding recess of the base and, at the other longitudinal end, a hook member elastically biased towards the pin, so as to snap into another recess of the base. The base is therefore clamped by the pin and the hook member. In the Board's opinion, the provision of the pivotable hook member and the clamping of the base render the hinge according to E1 closer to the present invention than the hinge according to D1, which requires a longitudinal movement of a sliding plate. Therefore, E1 represents the closest prior art.

5. According to the description of this citation E1, the hinge part, composed of the wing and the intermediate member assembled together and having a fixed pin, is first engaged with the fixed pin into a corresponding recess or housing of the base, and then the assembly wing/intermediate element is pivoted about this fixed pin towards the opposite end of the base until the hook member snaps into its complementary housing in the base. Complementary supporting surfaces in the form of a screw end and a corresponding opening disposed on the intermediate element and on the base respectively help the relative positioning of the hinge parts during this

described coupling. The hook member is further provided with a portion projecting outwardly of the wing, so that it can be gripped to move and disengage the hook member from its housing.

Thus, the subject-matter of claim 1 of the patent in suit differs from the hinge according to this closest prior art in that the fixed pin is replaced by another pivotable hook element elastically biased in the direction opposite to that of the hook element at the other end.

6. According to the description of the patent in suit, the technical problem underlying the disputed patent is to be seen in the provision of a hinge of the above described kind, that is to say composed of two parts, which can be quickly coupled and with which it is possible to couple one hinge at a time even in the event of a plurality of hinges on the door using completely indeterminate fitting movements. During the oral proceedings, the appellant summarized this object as the provision of a hinge, which allows a snap coupling, regardless of the directions in which the coupling members are moved together.

Since, according to the claim, the wing and the intermediate element have a U-shaped cross-sectional configuration in order to embrace the base, it is clear that the directions meant are all those in which the U-shaped members can be slipped over the base.

7. It is already indicated in document E1 that, because of the elastically biased hook member at one end of the wing part, it is easy to fit the two hinge parts together, achieving thereby a quick coupling. The wing part and the base are said to be kept by trap means at this end (page 2, bottom). Trap means may comprise one or two elastically biased catches. Therefore, in the

opinion of the Board, the skilled person, seeing the inconvenience of the two or three defined movements needed to couple the parts of the hinge according to E1, could not have failed to recognise that the fixed pin is the element, which impedes a quicker coupling and has to be eliminated and replaced, and that the provision of a second hook element would obviously be desirable in such a situation, to complete the snap movement already provided on one side of the present hook element. Thus, as soon as a quicker coupling is wanted, it is already doubtful on the sole basis of the teaching of E1 whether an inventive step is to be recognised in the idea of providing at the opposite end the same hook element already present at one end, thereby allowing coupling to be initiated at either end, or indeed both hooks simultaneously.

8. Moreover, in the same technical field, it is already known to use two hook elements elastically biased in opposed directions to each other along the longitudinal direction of the wing in order to realise a quick coupling of the same parts of a hinge, as shown by the citation D2. It is true that the main object of this document is different, namely to adjust the two parts in height, but nevertheless a coupling of the two parts is first necessary and is realised separately from the adjustment itself, which follows later. The same occurs in the present invention, as described in the description of the patent in suit, see column 4, lines 44 to 52, the only difference being the adjustment direction. Thus, the argument of the respondent that tools are necessary to **fasten** the two parts applies also for the present invention and is not relevant. Important is the fact that D2 makes a clear distinction between the coupling of the two parts and the adjustment itself, which are each realised one after the other. The passage column 2, lines 54 to 60, of D2 essentially concerns the coupling and, moreover,

points out the snap movement, so that the skilled person would have found in D2 the direct response to the main problem posed in the present invention, namely a quick coupling.

That the solution itself allows a coupling **in all directions** is a bonus effect. This finds positive confirmation in the description of the patent in suit, which indicates - column 4, lines 27 to 32 - that it is sufficient to fit the two parts together and press them against each other until the hooks members snap into their housings. The same movement is described in D2.

The other arguments of the respondent, namely the several steps necessary to modify the hinge according to D2 or the impossibility to dismount said hinge, are not relevant, since these steps or a dismounting are already known in the hinge according to E1, which is the hinge to be modified. The spaces or gaps, which are necessary for these movements in all directions, when coupling, exist in the hinge according to E1, so that the only adaptation to be provided is the substitution of the fixed pin by a hook element similar to the one already present in the hinge according to E1, which is the hinge to be modified.

9. Accordingly, the subject-matter of claim 1 does not involve an inventive step, so that the patent in suit cannot be maintained (Article 56 EPC).

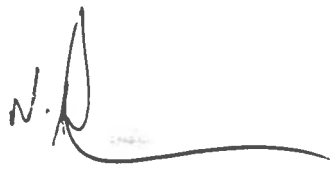
Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The European patent No. 0 369 532 is revoked.

The Registrar: The Chairman:



N. Maslin C. T. Wilson