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D E C I S I O N
of 12 November 2002

Case Number: T 0947/00 - 3.2.1

Application Number: 95928569.3

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IPC: B60J 10/04

Language of the proceedings: EN

Title of invention:
Sealing strips

Patentee:
GenCorp Property Inc.

Opponent:
Metzeler Automotive Profiles GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 56, 123(3)

Keyword:
"Inventive step (yes)"
"Amendments - opposition proceedings"

Decisions cited:
-

Catchword:
-



Case Number: T 0947/00 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 12 November 2002

Appellant: Metzeler Automotive Profiles GmbH
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Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office posted 21 July 2000
concerning maintenance of European patent
No. 0 781 213 in amended form.

Composition of the Board:

Chairman: S. Crane
Members: J. Osborne
G. E. Weiss

Summary of facts and submissions

- I The appeal is directed against the decision posted on 21 July 2000 in which the Opposition Division found that, account being taken of the amendments made by the patent proprietor during the opposition proceedings, European patent No. 0 781 213 and the invention to which it relates meet the requirements of the EPC.
- II Notice of appeal together with authorisation of payment of the appeal fee was filed on 15 September 2000. The grounds for appeal were received on 21 November 2000.
- III During oral proceedings held on 12 November 2002 the appellant (opponent) requested that the contested decision be set aside and that the patent be revoked in its entirety. The respondent (patent proprietor) requested that the appeal be dismissed (main request) or in the alternative that the patent be maintained in amended form on the basis of Claim 1 according to the auxiliary request submitted with a letter dated 14 October 2002. The appellant relied essentially upon the following prior art:
- E2: FR-A-2 648 887,
- E7: DE-A-35 38 562.
- IV Claim 1 according to the respondent's main request is essentially a combination of Claims 1 to 4 as granted and reads as follows, wherein the wording indicated in italics has replaced wording of Claim 1 included in []:

"A sealing arrangement for sealing an edge of an opening, comprising a rigid frame (16) for positioning along the edge and a sealing strip (24) made of flexible material (26) for attachment to the frame, the frame comprising a flange (18) extending transversely to the plane of the opening for receiving the sealing strip (24), the sealing strip (24) defining a channel (28) for embracingly gripping the flange (18), the flange (18) being located at one edge of an aperture (22) and extending away from the plane of the aperture, the opposite edge of the aperture defining a rigid formation (23), and the sealing strip (24) defining an integral locking portion (30) arranged to enter the aperture (22) as the flange (18) enters the channel (28) of the strip (24), the locking portion (30) terminating in a shoulder (32) presenting a distal face (50) extending longitudinally of the strip (24) and facing away therefrom in a direction so as to be inclined both to the depth of the channel (28) of the strip (24) and to the plane of the aperture (22) and thereby to obliquely engage the rigid formation (23) as the flange (18) enters the channel (28), whereby the shoulder (32) flexes and passes through the aperture (22), the material of the locking portion (30) thereafter resiling on the opposite side of the rigid formation (23) to hold the sealing strip (24) in position, in which the locking portion (30) defines a groove (33) running longitudinally of the strip (24) and positioned to engage the rigid formation (23) when the material of the locking portion (30) has resiled after the shoulder (32) has entered the aperture (22), characterised in that the locking portion (30) also defines a hollow internal chamber (31) running longitudinally of the strip and positioned immediately behind the said shoulder (32) to enable the shoulder to

pivot by partial collapse of the flexible material into the hollow chamber (31) [as] *thereby to enable* the shoulder (32) [passes] *to pass* through the aperture (22), the base of the groove (33) being formed by a wall of the hollow chamber (31), the integral junction between the flexible material defining the opposite side of the hollow chamber (31) to the said wall and the shoulder (32) forming a pivot point for the said pivoting."

Claims 2 to 10 according to the main request define features additional to the subject-matter of Claim 1.

V The appellant's arguments can be summarised as follows:

Claim 1 as granted defines that the shoulder pivots as it passes through the aperture. In agreement with the statement of problem in the description, this feature serves to ease the passage of the locking portion into the frame. According to the amended claim the shoulder pivots to enable it to pass into the frame, the claim thereby relating to an arrangement in which failure to pivot would prevent the shoulder from entering. It follows that the amendment extends the scope of protection beyond that of the claim as granted.

E2 represents the closest prior art, corresponding to the preamble of Claim 1 according to the main request. The problem to be solved is as set out in the patent specification column 1, lines 25 to 42 and relates to the disadvantageous presence of a locking lip on the locking portion of the known sealing arrangement. E7 relates to a two-part seal mounted on a frame having a flange 32 and a rigid formation 13 and discloses in a locking portion for a sealing strip 9 all features of

the characterising portion of present Claim 1. It is implicit for the skilled person that during entry of the locking portion into the frame a shoulder 14, 22 pivots about a point located on the projection of the lower wall of a hollow chamber 23, as viewed in Figure 2. Faced with the problem of difficulties with the locking portion according to E2 the skilled person would seek alternative constructions and so become aware of E7. The subject-matter of Claim 1 lacks inventive step in the light of the disclosures of E2 and E7.

VI The respondent replied essentially as follows:

The amended wording merely clarifies what is already defined in Claim 1, namely that the shoulder pivots during entry of the flange into the channel and of the locking portion into the frame. The pivoting action is both a consequence and a pre-requisite for entry of the shoulder into the aperture of the frame.

The disclosure of E7 is not relevant to the present claim because it includes no flange which guides the locking portion during its insertion into the frame. E7 furthermore discloses neither how the locking portion enters the channel nor how it flexes during its insertion. The skilled person would disregard E7 when searching for a solution to the set problem because he would not understand how the locking portion could be inserted into the channel by a linear movement.

Reasons for the decision

1. The appeal is admissible.

Main request

2. The patent relates to a sealing arrangement for an opening, comprising a rigid frame for positioning along the edge of the opening and a sealing strip for attachment to the frame. The frame defines in cross section an aperture which is bounded on one side by a rigid formation 23 and on the other side by a flange 18 which extends transversely to the plane of the opening and away from the plane of the aperture. The sealing strip comprises a channel 28 for engagement with the flange and a locking portion 30 having a shoulder 32 for entry into the aperture. During the course of mounting the sealing strip on the frame the channel embraces and grips the flange and so guides the movement of the sealing strip whilst the shoulder contacts the rigid formation. Upon contact with the rigid formation the shoulder flexes and during further movement passes the rigid formation and finally resiles behind it in order to lock the sealing strip on the frame. The foregoing features of the sealing arrangement are defined in the preambles of Claim 1 both as granted and as amended.

2.1 According to the characterising portion of Claim 1 as granted the shoulder pivots "as the shoulder passes" through the aperture. In combination with the above mentioned features of the preamble, particularly that the shoulder flexes upon contact with the rigid formation whilst the sealing strip as a whole is confined to movement along the flange, this wording defines an arrangement in which the shoulder contacts the rigid formation and thereupon pivots to enable it to enter the aperture. If the shoulder were not to

pivot due to this contact it would be confined to the movement determined by the flange and so it would be unable to pass through the aperture. It follows that the amended wording "thereby to enable the shoulder to pass" is merely an explicit definition of the result of the wording of the claim as granted. The appellant's argument that the amended wording defines an arrangement in which the shoulder acts as a form of lock which prevents entry of the shoulder into the aperture unless it is pivoted ignores fact that the preamble of the amended claim still defines that the pivoting takes place as the result of contact between the shoulder and the rigid formation.

- 2.2 The Board therefore concludes that the amendment to Claim 1 does not lead to an extension of the scope of the subject-matter to be protected and so the provisions of Article 123 (3) EPC are not violated.

3. The Board is in agreement with both parties that the closest prior art is that disclosed by E2, corresponding to the features in the preamble of Claim 1. In the arrangement according to E2 the sealing strip and the frame therefore have the features discussed under 2 above and the flange constrains the sealing strip to linear movement during both its attachment to and removal from the frame. The locking portion comprises a leg 30 which extends into the aperture and which defines at its distal end the oblique shoulder, proximally of which the leg defines the groove 32 which engages the rigid formation when the sealing strip is in position on the frame. Also at the distal end of the leg but on the side opposite to the shoulder is a lip which flexes during entry of the locking portion into the aperture and thereafter

resiles to a position essentially perpendicular to the leg in which it braces the shoulder against flexing. The shoulder flexes to allow both attachment and removal of the sealing strip. During attachment the lip creates relatively low resistance to flexing of the shoulder because the lip is at an oblique angle to the leg. However, during removal of the sealing strip the lip is initially in a perpendicular orientation relative to the leg and flexing of the leg subjects the lip to compressive loading resulting in a relatively high resistance to the flexing. As a result, if the flexibility of the lip is sufficient to ensure adequate security of attachment of the sealing strip to the frame, removal is difficult.

- 3.1 The subject-matter of Claim 1 differs from that of E2 by the characterising features. These have the effect that the resistance to flexing of the shoulder is the same during both assembly and disassembly. The corresponding problem is to provide for easier removal of the sealing strip from the frame whilst ensuring adequate security of attachment.

- 3.2 E7 relates to a sealing arrangement for sealing an edge of an opening, comprising a frame 8 and a sealing strip 9. A guiding element 10 for a window glass 6 is separate from the sealing strip and is fitted on a flange 32 in a subsequent operation (page 7, lines 6 to 14). Since the guiding element is not in place during the assembly of the sealing strip to the frame it has no function in this operation. Disassembly of the sealing strip is not described. However, it is implicit from Figure 2 of E7 that the guiding element does not serve to guide the sealing strip during disassembly. Neither the guiding element nor the

flange 32 is of relevance to the subject-matter of present Claim 1. The frame defines an aperture which is delimited on one side by a flange 12 and on the other side by a rigid formation 13. The sealing strip comprises a locking portion 14 which enters the aperture. However, unlike the arrangement according to present Claim 1, the flange 12 does not extend away from the plane of the aperture but has an end portion which is turned through 90° and is directed generally parallel to the plane of the aperture and a part 21 of the locking portion is engaged behind the end portion of the flange. There is no channel in the sealing strip which embraces the flange and, as a result, during entry of the locking portion into the aperture the sealing strip is not confined to a linear motion. The disclosure of E7 as regards the method of attaching the sealing strip is merely that it is clipped into the frame ("eingeklipst" - see page 6, line 7 and page 7, line 7). It follows that E7 contains nothing to lead the skilled person to believe that the sealing arrangement disclosed therein would help in solving the problem arising from E2. Moreover, E7 contains no explicit disclosure as regards the location of a pivot point for any part of the locking portion. In view of the inherently flexible nature of the sealing strip, the location of such a pivot point will in part be dependent upon any support which the frame may provide to the locking portion during its insertion. In the absence of any indication in E7 of how the locking portion is to be inserted there is also no implicit disclosure either of such a support or of the location of any pivot point. It follows that there is no indication that, even if the skilled person were to combine the teachings of E2 and E7, he would thereby arrive at the subject-matter of present Claim 1.

3.3 As agreed by the appellant during the oral proceedings, no other combination of documents is more relevant than that of E2 and E7. The Board therefore concludes that the subject-matter of present Claim 1 is not rendered obvious by the cited prior art and that it involves an inventive step within the meaning of Article 56 EPC. Since Claims 2 to 10 include all features of Claim 1 this conclusion holds equally for these claims. Under these circumstances it is not necessary to consider the appellant's auxiliary request.

Order

For these reasons it is decided:

The appeal is dismissed

The Registrar:

The Chairman:

S. Fabiani

S. Crane