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Hinge and system comprising a hinge.

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An aspect relates to a hinge comprising leaves, each leaf comprising a mating member arranged to mate with a mating member in the other leaf. In an embodiment, the mating members are arranged to mate in a direction substantially parallel to a plane of the leaves, with the hinge in closed state. With the two leaves connected for enabling a swiveling action, the mating members do not mate, for allowing the hinge to swivel. When a coupling element, such as a hinge pin, is removed from the hinge, the leaves are arranged to move relative to one another. If they move in a first direction relative to one another, the mating members mate. Due to the mating, the leaves are blocked from further relative movement in at least some direction other than opposite to the first direction. Preferably, movement in any direction other than opposite to the first direction.

P110430NL00

Title: Hinge and system comprising a hinge

Technical field

5 The various aspects relate to security hinges.

Background

Security hinges are widely used to prevent lifting of doors from frames. Common hinges, and mortise butt hinges in particular, can be taken
10 apart with great ease by removing the hinge pin. Subsequently, a door may be lifted from a portal without opening the door first. To prevent such opening, security hinges are provided. A frame leaf is provided with a plug, extending in a direction perpendicular to the frame leaf. An accompanying door leaf is provided with a hole for receiving the plug, in a closed state of
15 the hinge. In closed state, the plug extends through the hole in the door leaf and is accommodated by a hole provided in the door. Such hinge is for example disclosed by NL2006139.

Summary

20 It is preferred to provide a safety hinge that does not require a hole as large as disclosed by NL2006139.

A first aspect provides a hinge comprising a first leaf and a second leaf, which first leaf and second leaf are connected to one another via a coupling element being arranged for enabling a swiveling movement over at
25 least one swiveling axis, the coupling element being provided at a first end of the first leaf and at a first end of the second leaf. The first leaf comprising a first mating member of a first type, and the second leaf comprising a second mating member of a second type arranged to mate with the first mating member of the first type. The first mating member and second
30 mating member are provided on the first leaf and the second leaf such that the first mating member and second mating member are aligned for mating,

but not mating if the hinge is closed and the first leaf and the second leaf are coupled. Furthermore, the first mating member and second mating member are arranged to mate if the coupling element is removed and the first leaf and the second leaf are moved relative to one another in a first
5 direction having a component parallel to the first leaf and the second leaf, the mating inhibiting further movement of the first leaf and the second leaf relative to one another in the a further direction having a component perpendicular to the swiveling axis.

With the hinge, the mating substantially takes place in the plane of
10 the first leaf and the second leaf, rather than in a direction perpendicular to that plane. This allows for more compact design of the hinge in directions perpendicular to the leafs. This means less space or in certain embodiments even no additional space is required in a door or a frame for accommodating mating members extending beyond the perimeter of the leafs of the hinge.
15 In the latter case, no hole in the portal is required. And such hinge still provides the security provided by hinges already known - or even better. It should be noted that whereas "door" is consistently used in the text, the various aspects and embodiments thereof may also be used in conjunction with windows or other panels for at least partially closing openings of
20 buildings or other structures.

In an embodiment, the first leaf comprises a through hole for accommodating the second mating member if the hinge is in a closed state and the first leaf and the second leaf are aligned with one another. This embodiment allows for at least partial accommodation of the second mating
25 member in the first leaf, rather than in a portal or door.

In another embodiment, the second leaf comprises a through hole for accommodating the first mating member if the hinge is in a closed state and the first leaf and the second leaf are aligned with one another. This embodiment allows for at least partial accommodation of the second mating
30 member in the first leaf, rather than in a portal or door.

In a further embodiment, a second part of the first mating member connected to the first part of the mating member is provided parallel to the first leaf and at a second part of the second mating member is provided parallel to the second leaf. This embodiment allows for blocking in a
5 direction perpendicular to the leaves with the mating members engaged.

In yet another embodiment, the female mating member comprises a dome-shaped indentation comprising an opening at least in a direction substantially perpendicular to the swiveling axis. This embodiment has an advantage that it the leaf comprising the female mating member may be
10 manufactured from, for example, a steel plate by cutting and/or pressing only - rather than by adding further components.

In yet a further embodiment, mating of the first mating member and second mating member, if mated, inhibits movement of the first leaf and the second leaf relative to one another in another direction having a
15 component parallel to the swiveling axis. This embodiment provides further security, by further inhibiting movement.

In again another embodiment, The first leaf is a frame leaf and the second leaf is a door leaf; and the first direction is a direction wherein the first end of the door leaf extends beyond the first end of the frame leaf. This
20 embodiment is advantageous for windows or doors moving outward from a building.

A second aspect provides a system comprising a door or a window and a frame for accommodating the door or the window, wherein the door or the window is connected to the frame by means of at least one hinge
25 according to the first aspect.

In an embodiment of the second aspect, at least one of the door or window and the frame is at least partially provided with a liner comprising resilient material such that the door leaf and the frame leaf are biased relative to one another towards the first direction.

In such embodiment, removal of the coupling element results in the first mating member and the second mating member to mate, thus securing the door and the frame.

5 **Brief description of the drawings**

The various aspect and embodiments thereof will now be discussed in conjunction with drawings. In the drawings,

- Figure 1: shows a frame leaf of a hinge;
- Figure 2: shows a door leaf of a hinge;
- 10 Figure 3 A: shows a hinge comprising a hinge pin;
- Figure 3 B: shows a hinge without a hinge pin; and
- Figure 4: shows a door connected to a frame by means of a hinge.

15 **Detailed description**

Figure 1 shows a frame leaf 100 as part of a hinge for connecting a door or a window to a frame of a building, enabling the door or window to be opened by means of a swiveling movement. Figure 1 shows three views of the frame leaf 100, in three perspectives. The frame leaf 100 comprises a frame blade section 110 and, at a first end of the frame leaf 100, hinge shafts 120 for receiving a hinge pin.

The frame blade section 110 comprises holes 112 for receiving screws, bolts or other fastening means for connecting the frame leaf 100 to a portal of a building. The frame leaf 100 further comprises a female mating member 130 as a first mating member of a first type. The female mating member 130 comprises a dome-shaped receptacle 140 and a frame blade hole 150. The frame blade hole 150 is provided as a through-hole in the frame blade section 110, adjacent to the opening of the dome-shaped receptacle 140.

The opening of the dome-shaped receptacle 140 faces away from the hinge shafts 120. The dome-shaped receptacle 140 comprises a first part 142, close to the frame blade section 110, that is placed under a first angle relative to the frame blade section 110. The first angle is in this embodiment an obtuse angle, viewed from the hinge shafts 120. The top 144 of the dome-shaped receptacle 140 is substantially parallel to the frame blade section 110, at a distance from the frame blade section 110.

An advantage of the frame leaf 100 as shown by Figure 1 is that it may be manufactured by cutting and pressing of a single blade material, rather than by welding or otherwise joining additional elements to the frame blade section 110.

Figure 2 shows a door leaf 200 as part of a hinge for connecting a frame of a building to a door or a window, enabling the door or window to be opened by means of a swiveling movement. To the door or the window, preferably the door leaf 200 shown by Figure 2 is provided. Figure 2 shows three views of the door leaf 200, in three perspectives. The door leaf 200 comprises a door blade section 210 and, at a first end of the door leaf 200, a hinge shaft 220 for receiving a hinge pin.

The door blade section 210 comprises holes 212 for receiving screws, bolts or other fastening means for connecting the door leaf 200 to a window or a door. The door leaf 200 further comprises a male mating member 230 as a second mating member of a second type. The male mating member 230 comprises a protrusion 240 and a door blade hole 250. The door blade hole 250 is provided as a through-hole in the door blade section 210, surrounding the protrusion 240.

The protrusion 240 points towards the hinge shaft 220. The protrusion 240 comprises a first part 242, close to the frame blade section 110, that is placed under a second angle relative to the door blade section 210. The second angle is in this embodiment an sharp angle, viewed from the hinge shaft 220. The end 244 of the protrusion 240 is substantially

parallel to the door blade section 210, at a distance from the door blade section 210.

An advantage of the door leaf 200 as shown by Figure 2 is that it may be manufactured by cutting and pressing of a single blade material, rather than by welding or otherwise joining additional elements to the door blade section 210.

Figure 3 A shows a schematic representation of the door leaf 200 and the frame leaf 100. The door leaf 200 and the frame leaf 100 are connected by means of a hinge pin 310 as a part of a coupling element for coupling the frame leaf 100 and the door leaf 200. The end of the dome-shaped receptacle 140 is aligned with the end of the protrusion 240. Furthermore, the dome-shaped receptacle 140 is accommodated by the frame blade hole 250 and the protrusion 240 is accommodated by the door blade hole 150. The dome-shaped receptacle 140 and the protrusion 240 are accommodated such that at the outer sides of the hinge 300, the hinge 300 is flush, with no protrusions protruding in a direction perpendicular to the leaf. In another embodiment, there may be some protrusions, although this is not preferred.

In another embodiment, the dome-shaped receptacle 140 is larger, extending beyond the frame blade 250. This allows the protrusion 240 to be provided in the plane of the frame blade 210. On the other hand, this increases the perimeter of the hinge 300 and may require modification of a frame to which the frame blade 210 is connected. Such modification may be providing a hole in the frame for accommodating a part of the dome-shaped receptacle 140.

In the constellation depicted by Figure 3 A, viewed in a direction perpendicular to the door leaf 200, the dome-shaped receptacle 140 does not overlap with the protrusion 240 with the door leaf 200 and the frame leaf 100 aligned and connected by means of the hinge pin 310. This enables the hinge 300 to provide its intended swiveling function, with the end of the

dome-shaped receptacle 140 not interfering with the end of the protrusion 240 during the swiveling operation of the hinge 300. Yet, the dome-shaped receptacle 140 and the protrusion 240 are aligned in a direction perpendicular to the hinge pin 310, hence in a direction perpendicular to the swiveling axis of the hinge 300.

In another embodiment, the edge of the receptacle 140 overlaps with the protrusion 240 with the frame leaf 100 and the door leaf 200 in the position as depicted by Figure 3 A. In such embodiment, the hinge shafts are positioned relative to the leaves such that with swiveling of the hinge 300, the edges of the receptacle 140 and the protrusion 240 do not interfere. As long as the swiveling of the hinge 300 is enabled, the receptacle 140 and the protrusion 240 are not characterised as to mate with one another.

Figure 3 B shows a schematic representation of the door leaf 200 and the frame leaf 100 with the hinge pin 310 removed. Furthermore, the door leaf 200 and the frame leaf 100 are skewed in a direction perpendicular to the hinge pin. In particular, the door leaf 200 and the frame leaf 100 are skewed such that the first end of the door leaf 200 extends beyond the first end of the frame leaf 100. In these positions of the frame leaf 100 and the door leaf 200, the protrusion 240 is received by the dome-shaped receptacle 140. The door leaf 200 and the frame leaf 100 may also be skewed in another direction.

In the position depicted by Figure 3 B, movement of the frame leaf 100 and the door leaf 200 relative to one another is blocked in another direction having a component parallel to the swiveling axis. Also movement of the frame leaf 100 and the door leaf 200 relative to one another is blocked in a direction having a component perpendicular to the frame blade section 110 and the door blade section 210. This means that in the position depicted by Figure 3 B, the frame leaf 100 and the door leaf 200 cannot be taken apart, despite absence of the hinge pin 310 and the frame leaf 100 is secured to the door leaf 200.

Figure 4 shows a schematic representation of a frame-door system 400 in a building. The frame-door system 400 comprises a frame 410, a door 420 and the hinge 300. Between the door 420 and the frame 410, a liner 430 is provided. Application of the liner 430 between the door 420 and the frame 410 is preferred for preventing drafts of air between the edges of the door 420 and the frame 410. The liner 430 comprises a resilient material. Such resilient material may be natural or synthetic rubber or another elastomer or another organic polymer having resilient properties. The liner 430 may comprise a foam material for enhancing resilience of the liner 430.

With the door 420 close, the liner 420 is preferably in a compressed state. This means that the door 420 is biased relative to the frame 410 in a direction that the door 420 is pushed out of the frame 410. The door 420 is kept at its proper position within the frame 410 by means of the hinge 300 and the hinge pin 310 in particular. If the hinge pin is removed, the door 420 will be pushed out of the frame by virtue of the biasing force exercised by the liner 420. The pushing movement takes place until the female mating member 130 provided in the frame leaf 100 mates with the male mating member 230 provided in the door leaf 200. With the female mating member 130 fully mated with the male mating member 230, no further movement of the door 420 and the frame 410 relative to one another is possible - except for a movement of the door 420 back into the frame 410.

Various modifications of a general concept provided by the claims are possible, as variations based on the embodiments discussed above. First, whereas the frame leaf 100 has been shown having two hinge shafts 120 and the door leaf has been shown with one hinge shaft 220, the amount and constellation of the hinge shafts may be implemented differently. It is preferred the positions of the hinge shafts on the leafs is complementary, allowing proper coupling of the frame leaf 100 and the door leaf 200. Optionally, some space may be provided between adjacent ends of hinge shafts to provide room for a bearing, yet also in this embodiment the

positions of the hinge shafts may be considered to be complementary.

Furthermore, whereas the embodiments have been discussed in conjunction with a mortise butt hinge, also other hinges may be modified to employ the various aspects discussed and embodiments thereof. Such other hinges

5 preferably comprise two blades that are provided parallel to one another if the door, window or other panel is in a closed state, like a mortise butt hinge, a piano hinge, similar hinges, either existing or to developed as new. If a film hinge is used, no hinge pin 130 is present. In such embodiment, the coupling element comprises a film.

10 In the embodiments discussed above, the female mating member 130 is presented comprising a dome-shaped receptacle 140 and a frame blade hole 150. Alternatively, the female mating member does not comprise the dome-shaped receptacle 140, but only a section that is placed under an angle relative to the frame blade section 110, preferably an obtuse angle,
15 viewed from the hinge shafts 120. Such section may be open in directions parallel to the hinge shafts. The male mating member 230 may be modified accordingly.

Furthermore, the female mating member 130 and the male mating member 230 may be interchanged between the frame leaf 100 and the door
20 leaf 200. Preferably, with the male mating member 230 applied to the frame leaf 100 and the female mating member 130 applied to the door leaf 200, the mating members are rotated 180 degrees or mirrored over an axis parallel to the hinge shafts. This transformation is preferably executed to preserve the functionality of the hinge 300 as discussed in conjunction with Figure 4.
25 In yet another alternative, the frame blade 100 and the door blade 200 both comprise male and female mating members. These do not necessarily have to be identical female mating members and identical male mating members. Yet is it preferred that first mating members of a first type provided comprised by the frame blade 100 are arranged to mate with mating second
30 members of a second type comprised by the door blade 200.

In summary, one aspect relates to a hinge comprising leaves, each leaf comprising a mating member arranged to mate with a mating member in the other leaf. In an embodiment, the mating members are arranged to mate in a direction substantially parallel to a plane of the leaves, with the hinge in closed state. With the two leaves connected for enabling a swiveling action, the mating members do not mate, for allowing the hinge to swivel. When a coupling element, such as a hinge pin, is removed from the hinge, the leaves are arranged to move relative to one another. If they move in a first direction relative to one another, the mating members mate. Due to the mating, the leaves are blocked from further relative movement in at least some direction other than opposite to the first direction. Preferably, movement in any direction other than opposite to the first direction.

Expressions such as "comprise", "include", "incorporate", "contain", "is" and "have" are to be construed in a non-exclusive manner when interpreting the description and its associated claims, namely construed to allow for other items or components which are not explicitly defined also to be present. Reference to the singular is also to be construed in be a reference to the plural and vice versa.

In the description above, it will be understood that when an element such as layer, region or substrate is referred to as being "on" or "onto" another element, the element is either directly on the other element, or intervening elements may also be present.

Furthermore, the invention may also be embodied with less components than provided in the embodiments described here, wherein one component carries out multiple functions. Just as well may the invention be embodied using more elements than depicted in the Figures, wherein functions carried out by one component in the embodiment provided are distributed over multiple components.

A person skilled in the art will readily appreciate that various parameters disclosed in the description may be modified and that various

embodiments disclosed and/or claimed may be combined without departing from the scope of the invention.

Conclusies

1. Scharnier omvattende een eerste blad en een tweede blad, welke eerste blad en tweede blad aan elkaar zijn verbonden via een koppелеlement welke is ingericht om een draaiende beweging mogelijk te maken over ten minste een draai-as, welke koppелеlement is voorzien aan
 5 een eerste einde van het eerste blad en aan een eerste einde van het tweede blad;
 Het eerste blad omvattende een paringsdeel van een eerste type; en
 Het tweede blad omvattende een tweede paringsdeel van een tweede type ingericht om te paren met het eerste paringsdeel van het eerste type;
 10 Welk eerste paringsdeel en tweed paringsdeel zijn voorzien op het eerste blad en het tweede blad zodanig dat:
 Het eerste paringsdeel en het tweede paringsdeel zijn opgelijnd voor paring, maar niet paren als de scharnier gesloten is en het eerste blad en het tweede blad zijn gekoppeld; en
 15 Het eerste paringsdeel en het tweede paringsdeel zijn ingericht om te paren als het koppелеlement is verwijderd en het eerste en blad en het tweede blad worden bewogen ten opzicht van elkaar in een eerste richting welke een component heeft parallel aan het eerste blad en het tweede blad, welke paring verdere beweging van het eerste blad en het tweede blad ten opzichte
 20 van elkaar in een verdere richting verhinderd, welke verdere richting een component heeft loodrecht op de draai-as.
2. Scharnier volgens conclusie 1, waarbij het eerste blad een gat omvat dat plaats kan bieden aan het tweede paringsdeel als de scharnier in gesloten toestand is en het eerste blad en het tweede blad met elkaar zijn
 25 opgelijnd.

3. Scharnier volgens conclusie 1 of 2, waarbij het tweede blad een gat omvat dat plaats kan bieden aan het eerste paringsdeel als de scharnier in gesloten toestand is en het eerste blad en het tweede blad met elkaar zijn opgelijnd.
- 5 4. Scharnier volgens een van de conclusies 1 tot en met 3, waarbij ten minste een eerste deel van het eerste paringsdeel is geplaatst onder een eerste hoek ten opzichte van het eerste blad en ten minste een eerste deel van het tweede paringsdeel is geplaatst onder een tweede hoek ten opzichte van het tweede blad, waarbij een eerste van de eerste hoek en de tweede
10 hoek stomp is ten opzichte van het eerste einde en een tweede van de eerste hoek en de tweede hoek scherp is ten opzichte van het eerste einde.
5. Scharnier volgens een van de conclusies 1 tot en met 4, waarbij een tweede deel van het eerste paringsdeel parallel aan het eerste blad verbonden is met het eerste blad en een tweede deel van het tweede
15 paringsdeel parallel aan het tweede blad verbonden is aan het tweede blad.
6. Scharnier volgens conclusie 5, waarbij het tweede deel van het eerste paringsdeel op afstand is voorzien aan het eerste blad en het tweede deel van het tweede paringsdeel op afstand is voorzien aan het tweede blad.
7. Scharnier volgens een van de voorgaande conclusies, waarbij een
20 eerste van het eerste paringsdeel en het tweede paringsdeel een vrouwelijk paringsdeel omvat en een tweede van het eerste paringsdeel en het tweede paringsdeel een mannelijk paringsdeel omvat.
8. Scharnier volgens conclusie 7, waarbij het vrouwelijk paringsdeel een koepelvormige inspringing omvat, welke een opening omvat in ten minste
25 een richting in hoofdzaak loodrecht op de draai-as.
9. Scharnier volgens een van de conclusies 6 tot en met 8, waarbij het mannelijk paringsdeel een uitsteeksel omvat.

10. Scharnier volgens conclusie 9, waarbij het uitsteeksel parallel aan het eerste blad is geplaatst, in het vlak van het eerste blad.
11. Scharnier volgens een van de voorgaande conclusies, waarbij paring van het eerste paringsdeel en het tweede paringsdeel beweging van het eerste blad en het tweede blad ten opzichte van elkaar verhinderd in een verdere richting welke een component parallel aan de draai-as heeft.
12. Scharnier volgens een van de voorgaande conclusies, waarbij:
- Het eerste blad een kozijnblad is en het tweede blad een deurblad is; en
 - De eerste richting een richting is waarbij, na beweging in de eerste richting, het eerste einde van het deurblad uitsteek ten opzichte van het eerste einde van het kozijnblad.
13. Scharnier volgens een van de voorgaande conclusies, waarbij het eerste blad een eerste set van ten minste een lid omvat en het tweede blad een tweede set van ten minste een lid omvat, welke leden van de eerste set en de tweede set complementair zijn zodanig dat als het eerste blad en het tweede blad ten opzichte van elkaar zijn opgelijnd, de leden van de eerste set en de tweede set een gezamenlijke holte vormen welke plaats bied aan een scharnierpen als koppellement.
14. Systeem omvattend een deur of een raam en een kozijn dat plaats biedt aan de deur of het raam, waarbij de deur of het raam is verbonden aan het kozijn door middel van ten minste een scharnier volgens een van de voorgaande conclusies.
15. Systeem volgens conclusie 14, waarbij ten minste een van de deur of het raam en het kozijn ten minste gedeeltelijk is voorzien van een strip omvattende veerkrachtig materiaal zodanig dat het deurblad en het kozijnblad ten opzichte van elkaar bekrachtigd zijn in de eerste richting.

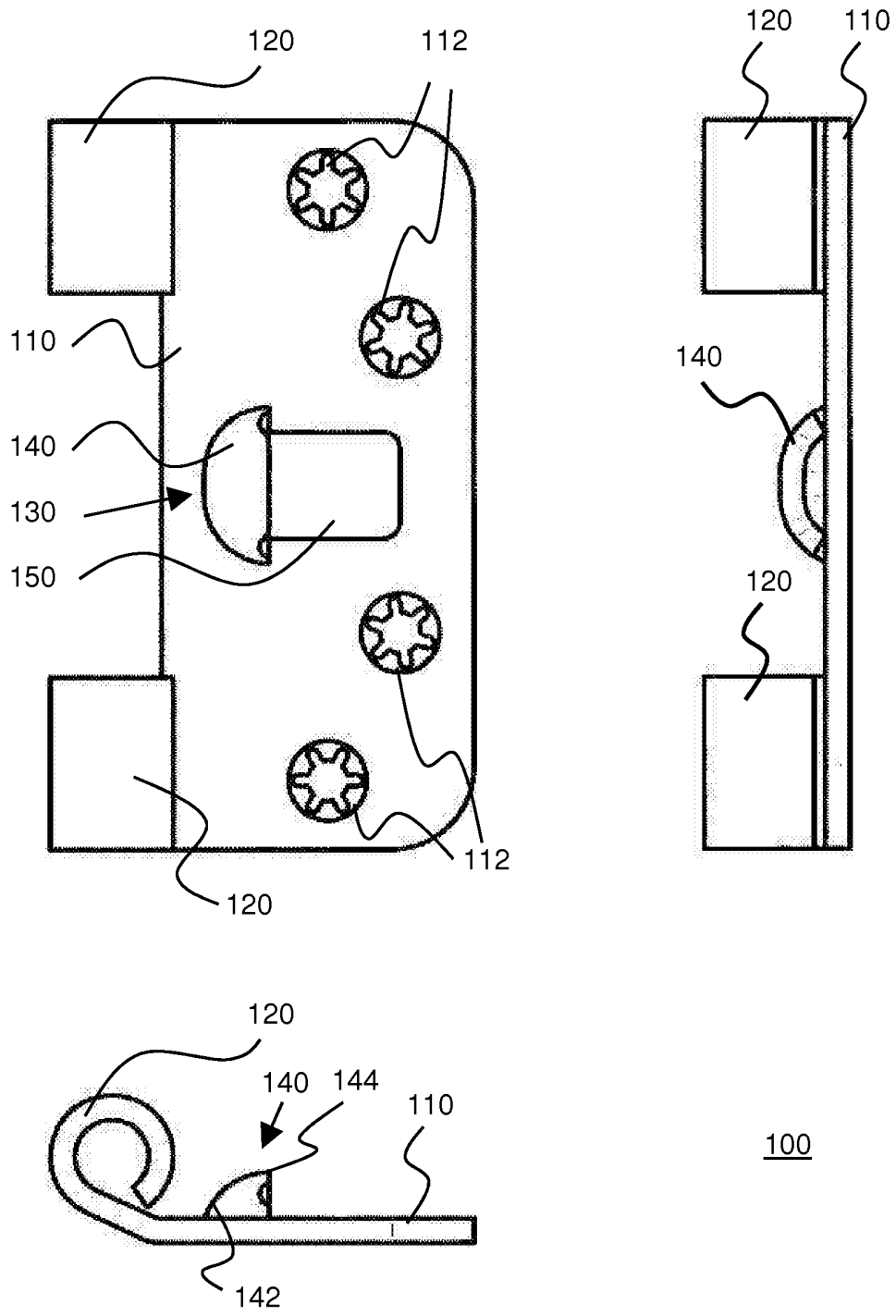


Fig. 1

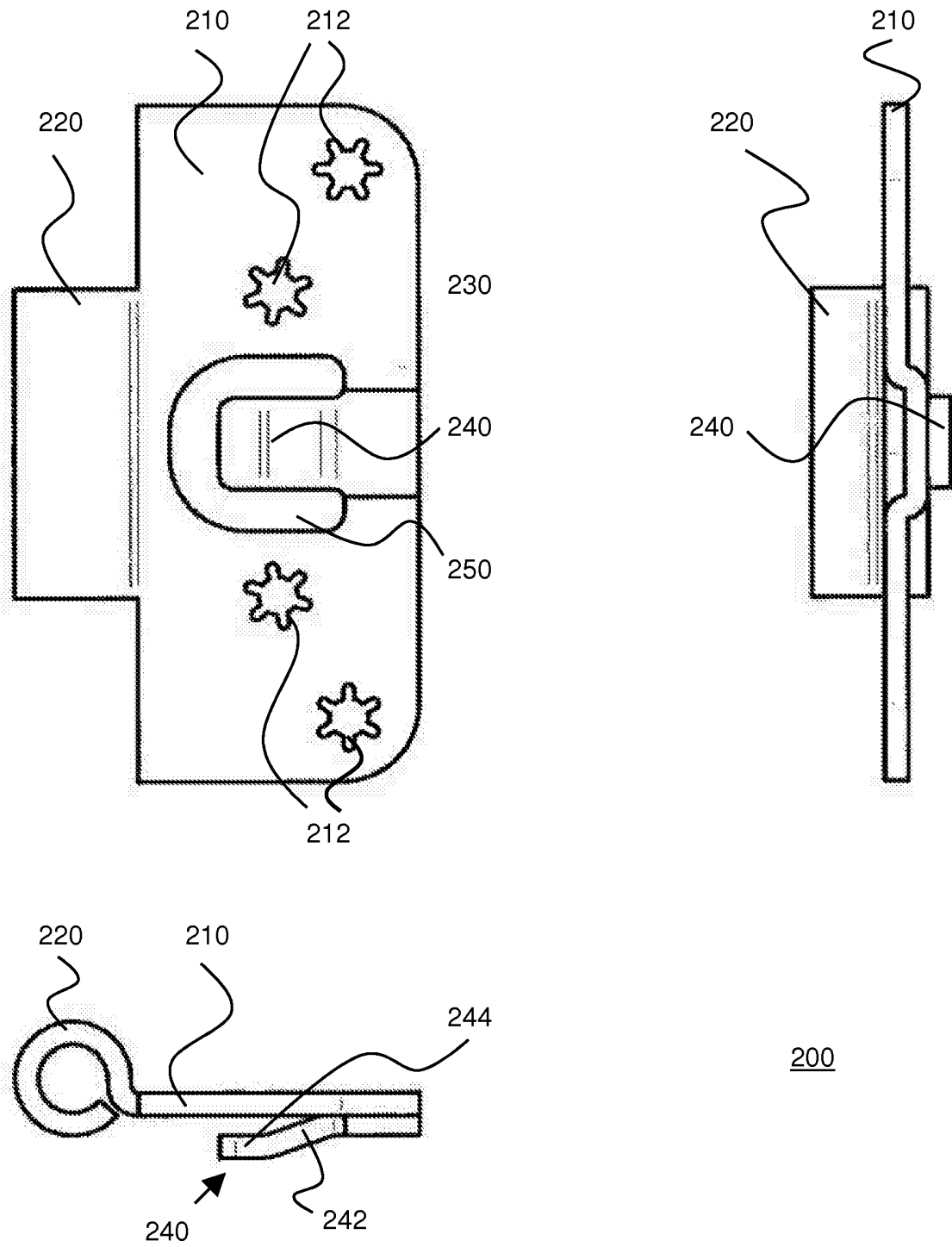


Fig. 2

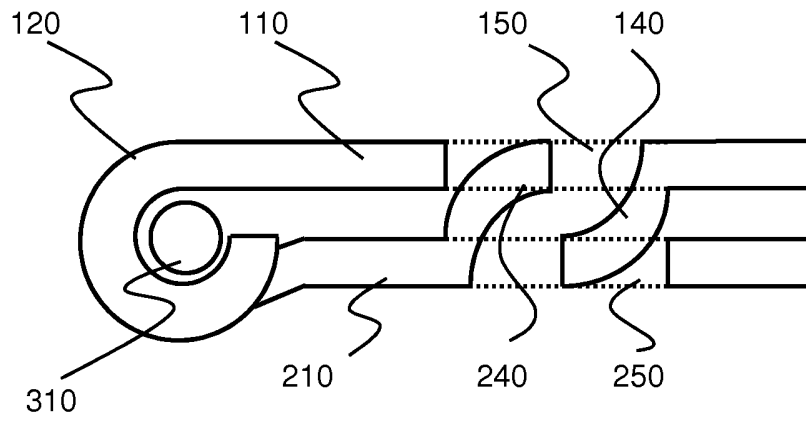


Fig. 3 A

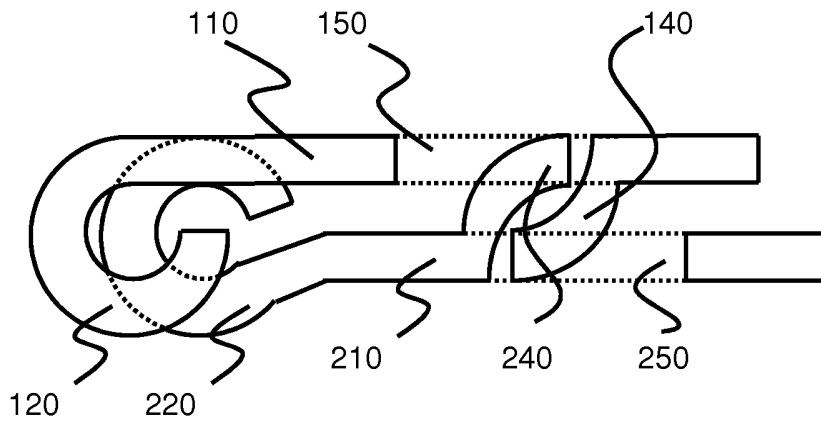


Fig. 3 B

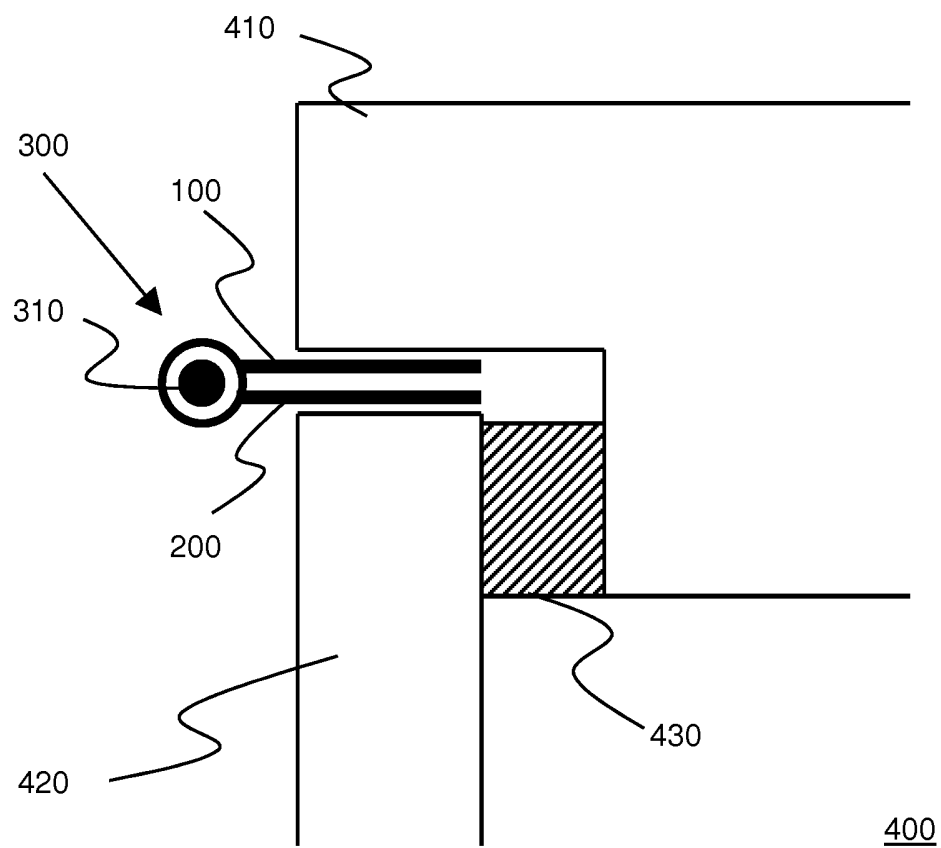


Fig. 4

Title: Hinge and system comprising a hinge

Abstract

An aspect relates to a hinge comprising leaves, each leaf comprising a mating member arranged to mate with a mating member in the other leaf. In an embodiment, the mating members are arranged to mate in a direction substantially parallel to a plane of the leaves, with the hinge in closed state. With the two leaves connected for enabling a swiveling action, the mating members do not mate, for allowing the hinge to swivel. When a coupling element, such as a hinge pin, is removed from the hinge, the leaves are arranged to move relative to one another. If they move in a first direction relative to one another, the mating members mate. Due to the mating, the leaves are blocked from further relative movement in at least some direction other than opposite to the first direction. Preferably, movement in any direction other than opposite to the first direction.

SAMENWERKINGSVERDRAG (PCT)

RAPPORT BETREFFENDE NIEUWHEIDSONDERZOEK VAN INTERNATIONAAL TYPE

IDENTIFICATIE VAN DE NATIONALE AANVRAGE	KENMERK VAN DE AANVRAGER OF VAN DE GEMACHTIGDE P110430NL00				
Nederlands aanvraag nr. 2016552	Indieningsdatum 05-04-2016				
	Ingeroepen voorrangsdatum				
Aanvrager (Naam) Buva Rationele Bouwprodukten B.V.					
Datum van het verzoek voor een onderzoek van internationaal type 10-09-2016	Door de Instantie voor Internationaal Onderzoek aan het verzoek voor een onderzoek van internationaal type toegekend nr. SN67266				
I. CLASSIFICATIE VAN HET ONDERWERP (bij toepassing van verschillende classificaties, alle classificatiesymbolen opgeven) Volgens de internationale classificatie (IPC) E05D11/00					
II. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK Onderzochte minimumdocumentatie <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; font-weight: bold;">Classificatiesysteem</td> <td style="font-weight: bold;">Classificatiesymbolen</td> </tr> <tr> <td style="text-align: center; font-weight: bold;">IPC</td> <td style="text-align: center; font-weight: bold;">E05D</td> </tr> </table>		Classificatiesysteem	Classificatiesymbolen	IPC	E05D
Classificatiesysteem	Classificatiesymbolen				
IPC	E05D				
Onderzochte andere documentatie dan de minimum documentatie, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen 					
III.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10px; text-align: center;">☐</td> <td style="font-weight: bold;">GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES</td> <td style="font-size: small;">(opmerkingen op aanvullingsblad)</td> </tr> </table>	☐	GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES	(opmerkingen op aanvullingsblad)	
☐	GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES	(opmerkingen op aanvullingsblad)			
IV.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10px; text-align: center;">☐</td> <td style="font-weight: bold;">GEBREK AAN EENHEID VAN UITVINDING</td> <td style="font-size: small;">(opmerkingen op aanvullingsblad)</td> </tr> </table>	☐	GEBREK AAN EENHEID VAN UITVINDING	(opmerkingen op aanvullingsblad)	
☐	GEBREK AAN EENHEID VAN UITVINDING	(opmerkingen op aanvullingsblad)			

**ONDERZOEKSRAPPORT BETREFFENDE HET
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Nummer van het verzoek om een onderzoek naar
de stand van de techniek

NL 2016552

A. CLASSIFICATIE VAN HET ONDERWERP
INV. E05D11/00
ADD.

Volgens de Internationale Classificatie van octrooien (IPC) of zowel volgens de nationale classificatie als volgens de IPC.

B. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK

Onderzochte minimum documentatie (classificatie gevolgd door classificatiesymbolen)
E05D

Onderzochte andere documentatie dan de minimum documentatie, voor dergelijke documenten, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

Tijdens het onderzoek geraadpleegde elektronische gegevensbestanden (naam van de gegevensbestanden en, waar uitvoerbaar, gebruikte trefwoorden)

EPO-Internal, WPI Data

C. VAN BELANG GEACHTE DOCUMENTEN

Categorie *	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
X A	NL 1 006 600 C2 (STENMAN HOLLAND NV [NL]) 19 januari 1999 (1999-01-19) * bladzijde 2, regel 36 - bladzijde 4, regel 5; figuren 1,2,6,8 *	1-3,5, 7-15 4,6
X A	EP 1 223 279 A2 (BREMICKER SOEHNE KG A [DE]) 17 juli 2002 (2002-07-17) * alinea [0017] - alinea [0021]; figuren 1-4 *	1-3,5, 7-15 4,6
X A	GB 2 512 654 A (G T WINDOWS LTD [GB]) 8 oktober 2014 (2014-10-08) * bladzijde 10, regel 17 - regel 28; conclusie 1; figuren 4a,4b,5-8 *	1-3,5, 7-15 4,6

☐ Verdere documenten worden vermeld in het vervolg van vak C.

☒ Leden van dezelfde octrooifamilie zijn vermeld in een bijlage

*** Speciale categorieën van aangehaalde documenten**

"A" niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft

"D" in de octrooiaanvraag vermeld

"E" eerdere octrooi(aanvraag), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven

"L" om andere redenen vermelde literatuur

"O" niet-schriftelijke stand van de techniek

"P" tussen de voorrangsdatum en de indieningsdatum gepubliceerde literatuur

"T" na de indieningsdatum of de voorrangsdatum gepubliceerde literatuur die niet bezwaarlijk is voor de octrooiaanvraag, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding

"X" de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur

"Y" de conclusie wordt als niet inventief beschouwd ten opzichte van de combinatie van deze literatuur met andere geciteerde literatuur van dezelfde categorie, waarbij de combinatie voor de vakman voor de hand liggend wordt geacht

"Z" lid van dezelfde octrooifamilie of overeenkomstige octrooipublicatie

Datum waarop het onderzoek naar de stand van de techniek van internationaal type werd voltooid

22 december 2016

Verzenddatum van het rapport van het onderzoek naar de stand van de techniek van internationaal type

Naam en adres van de instantie

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De bevoegde ambtenaar

Berote, Marc

**ONDERZOEKSRAPPORT BETREFFENDE HET
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Informatie over leden van dezelfde octrooifamilie

Nummer van het verzoek om een onderzoek naar
de stand van de techniek

NL 2016552

In het rapport genoemd octrooigecchrift	Datum van publicatie	Overeenkomend(e) gecchrift(en)	Datum van publicatie
NL 1006600	C2	19-01-1999	GEEN
EP 1223279	A2	17-07-2002	DE 10101768 A1 18-07-2002 EP 1223279 A2 17-07-2002
GB 2512654	A	08-10-2014	GEEN

WRITTEN OPINION

File No. SN67266	Filing date (day/month/year) 05.04.2016	Priority date (day/month/year)	Application No. NL2016552
International Patent Classification (IPC) INV. E05D11.00			
Applicant Buva Rationele Bouwprodukten B.V.			

This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the application
- ☐ Box No. VIII Certain observations on the application

	Examiner Berote, Marc
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WRITTEN OPINION

Application number
NL2016552

Box No. I Basis of this opinion

1. This opinion has been established on the basis of the latest set of claims filed before the start of the search.
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the application as filed.
 - ☐ filed together with the application in electronic form.
 - ☐ furnished subsequently for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty	Yes: Claims	4, 6, 15
	No: Claims	1-3, 5, 7-14
Inventive step	Yes: Claims	4, 6
	No: Claims	1-3, 5, 7-15
Industrial applicability	Yes: Claims	1-15
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following documents:

D1 NL 1 006 600 C2 (STENMAN HOLLAND NV) (1999-01-19)

D2 EP 1 223 279 A2 (BREMICKER SOEHNE KG A) (2002-07-17)

D3 GB 2 512 654 A (G T WINDOWS LTD) (2014-10-08)

2 The present application does not meet the criteria of patentability, because the subject-matter of claim 1 is not new for the following reasons:

D1 essentially discloses a hinge ("scharnier") (see Fig. 1) with a first (2) and second plate ("blad") (16) that are connected to one another through a coupling element ("koppelement") (12) the first and second plate (2,16) respectively comprising a first (26,28) and second mating element ("paringsdeel") (20).

D1 therefore discloses all the technical features of claim 1 and this claim is therefore not new.

2.1 Although documents D2 and D3 do not disclose the first and second plate being directly connected to one another through a (hinge axis) coupling element, this application would be obvious to the man skilled in the art. These two documents do disclose mating elements with the features of claim 1. See specifically:

D2, Fig.4, male mating element (6,14), female mating element (13,16)

D3, Fig. 4a, 5, male mating element (160), female mating element (322)

3 Dependent claims 2,3,5,7-15 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of novelty and/or inventive step, see D1-D3. The reasoning for this is as follows:

Claims 2,3: See D1, hole (26,28). There are no features to distinguish between the first and second plate, so plate (2) can be either the first or second plate.

Claim 5: see D1, second part of mating element; (28) and (24) both of which formed parallel to the first and second part.

Claims 7,8,9,10: see D1, female element (28), male element (24)

Claims 11-14: see D1, Fig. 8

Claim 15: These elastic strips are commonly known in the prior art.

- 4 The combination of the features of dependent claims 4 or 6 is neither known from, nor rendered obvious by, the available prior art. The reasons are as follows: There is no indication in the cited prior art to have the mating elements of **both** the first and second plate extend **away** from them.