



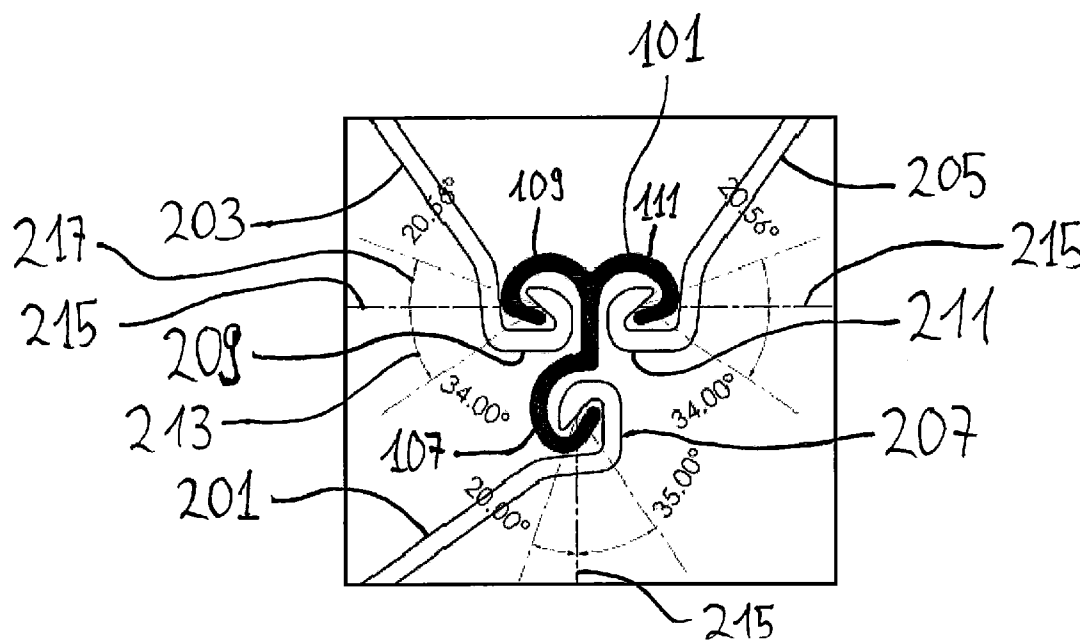
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(19) **United States**(12) **Patent Application Publication**
McShane et al.(10) **Pub. No.: US 2015/0010366 A1**(43) **Pub. Date: Jan. 8, 2015**(54) **CONNECTING PROFILE FOR CONNECTING
SHEET PILES OF A SHEET PILE WALL****Publication Classification**(71) Applicant: **PilePro LLC**, Austin, TX (US)(72) Inventors: **Gerry McShane**, Bernardsville, NJ
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2013.

(57)

ABSTRACT

A connecting profile for connecting sheet piles of a sheet pile wall includes a substantially straight central strip, and a first, second and third hook strip, extending from the central strip, wherein the first, second and third hook strip include each a curved section and a substantially straight end section extending from the curved section and forming a free end of the hook strip.



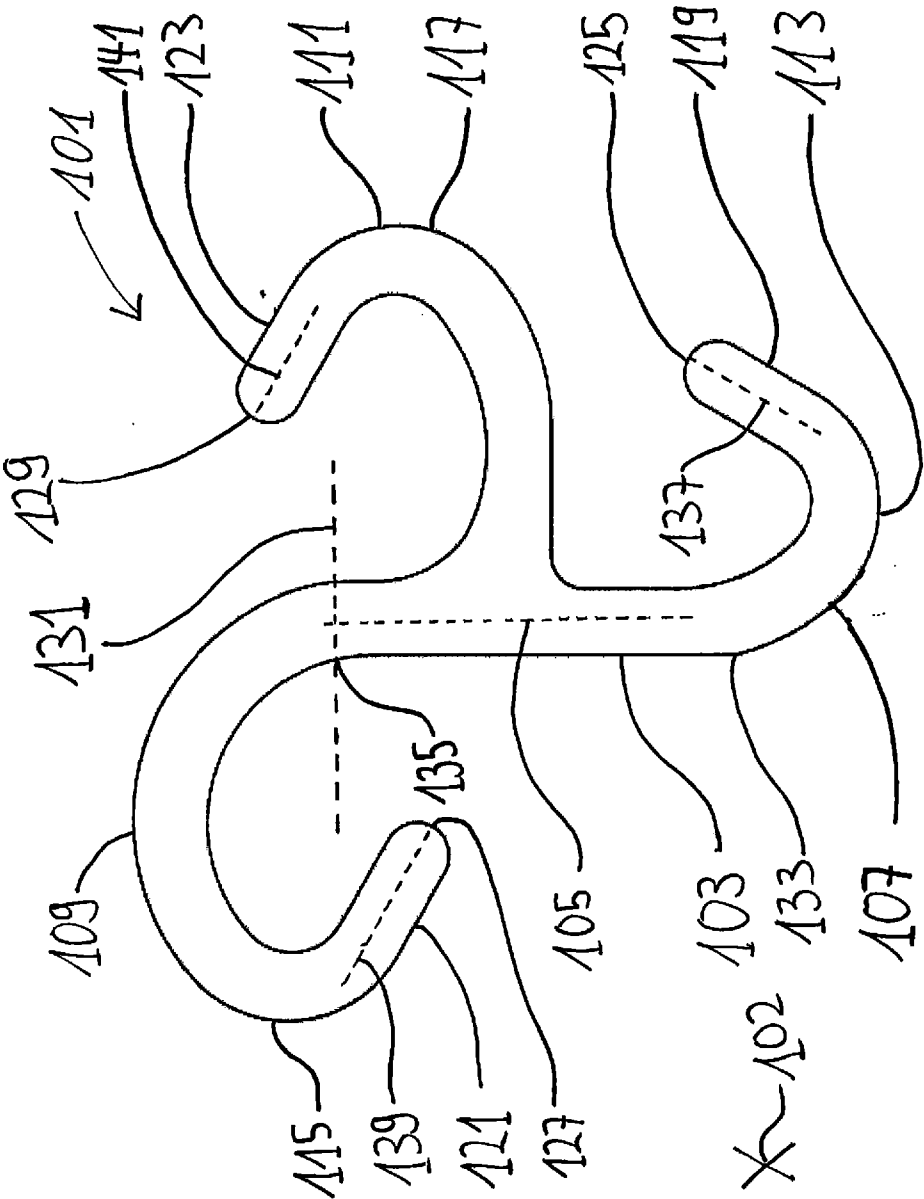


FIG. 1

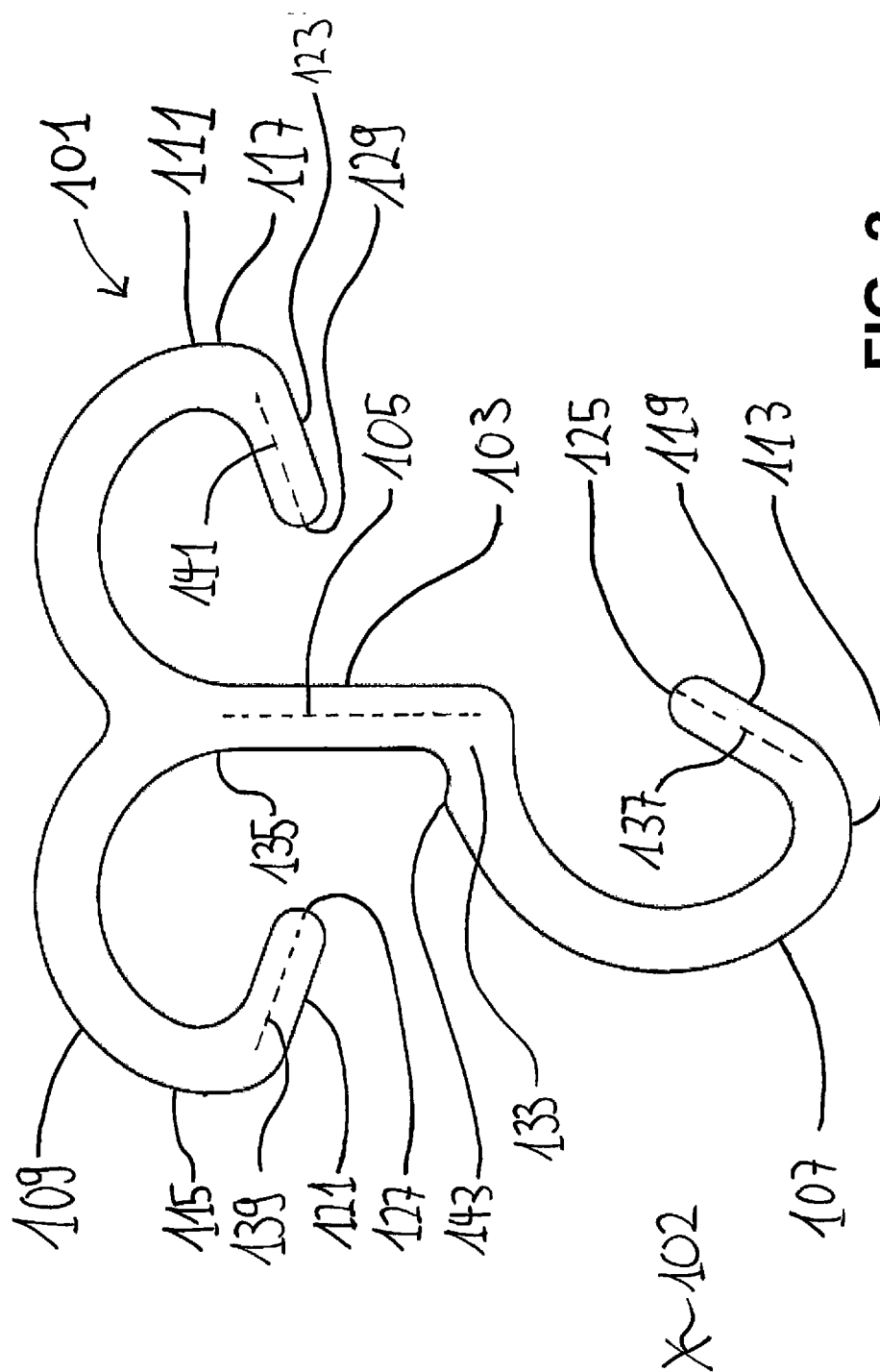
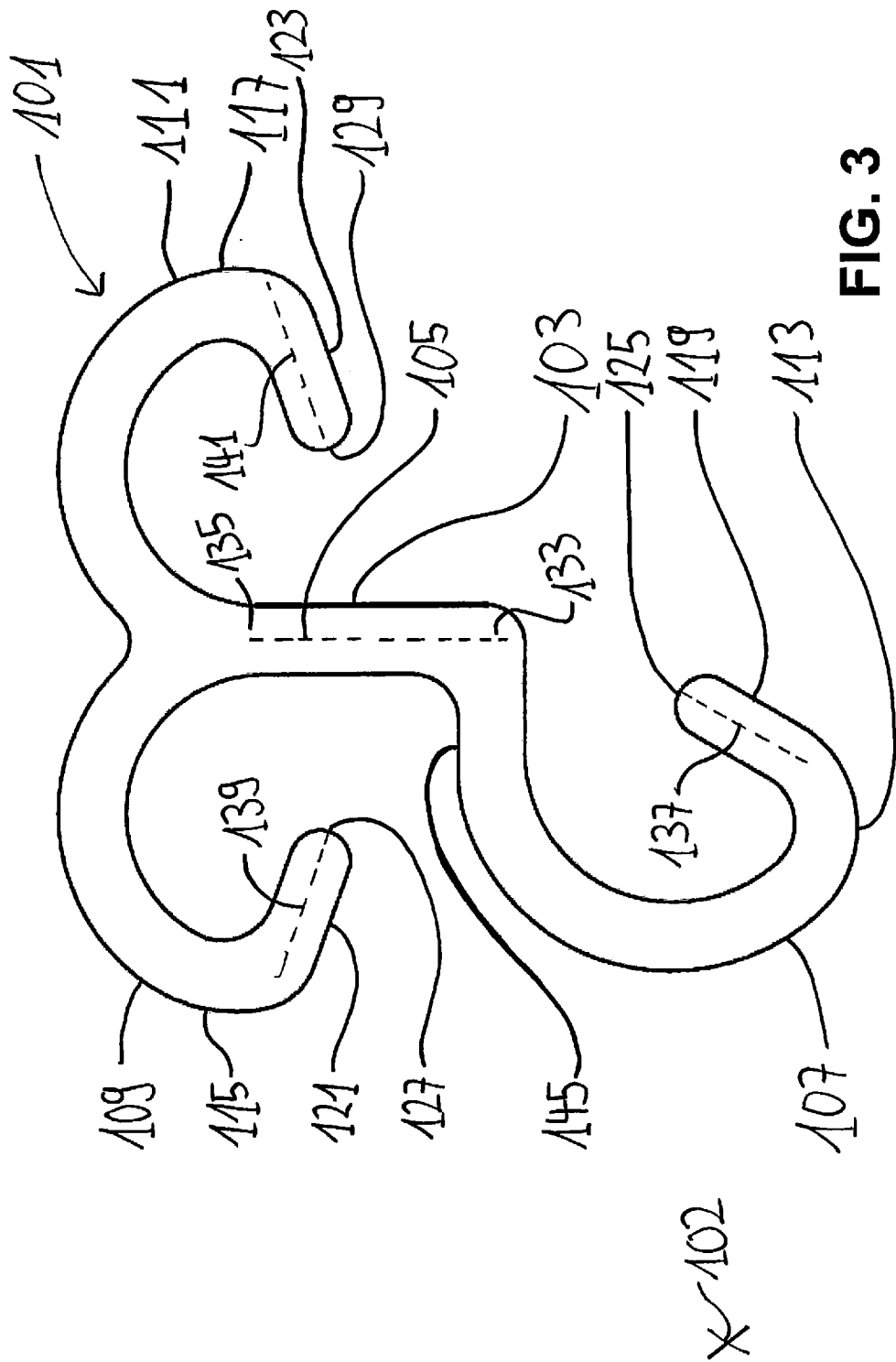
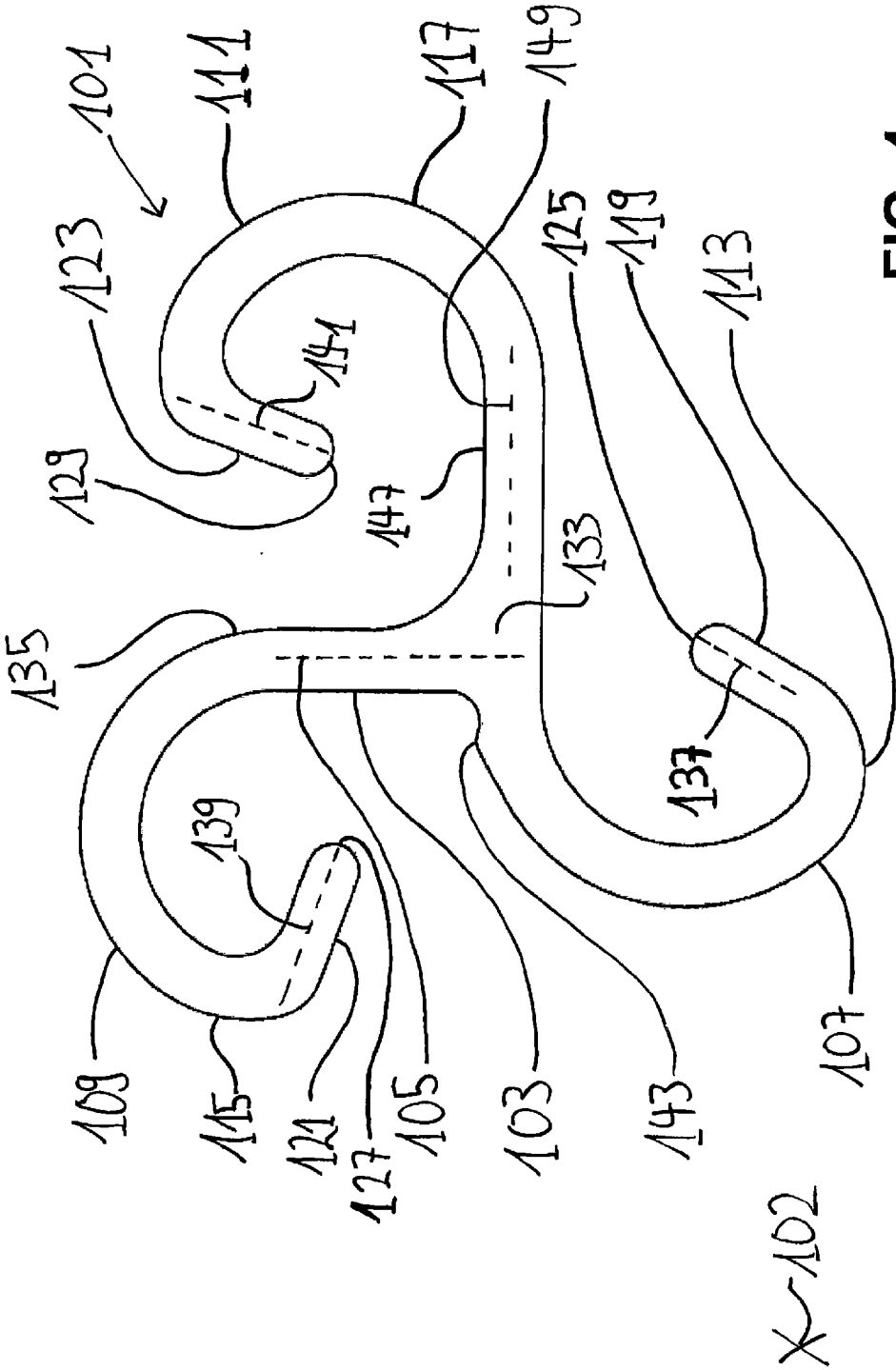


FIG. 2





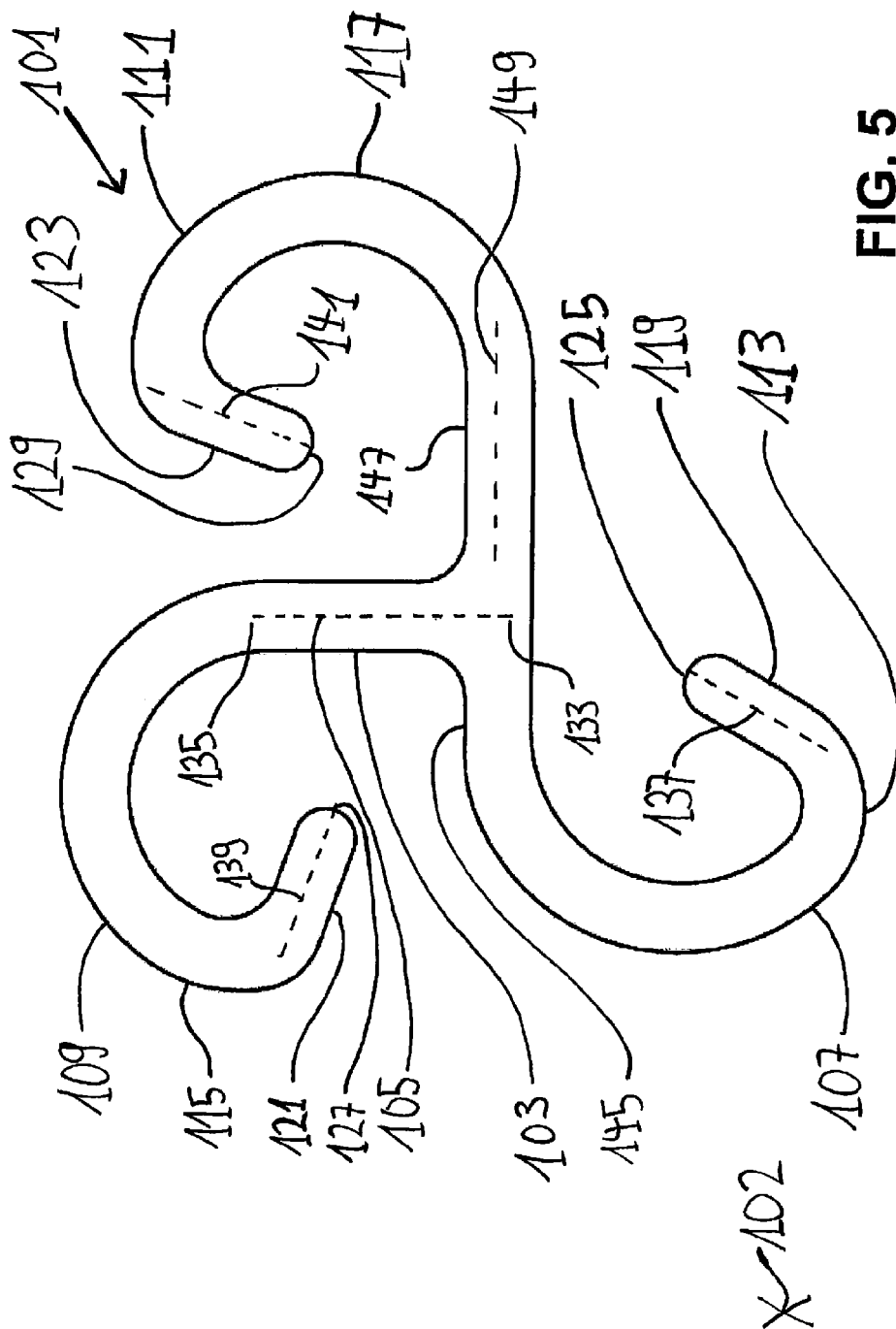


FIG. 5

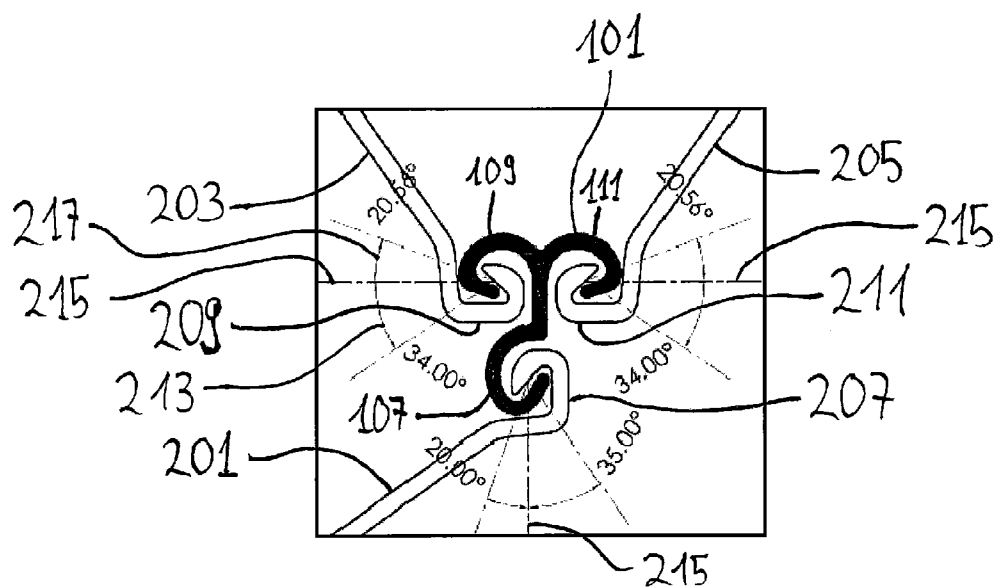


FIG. 6

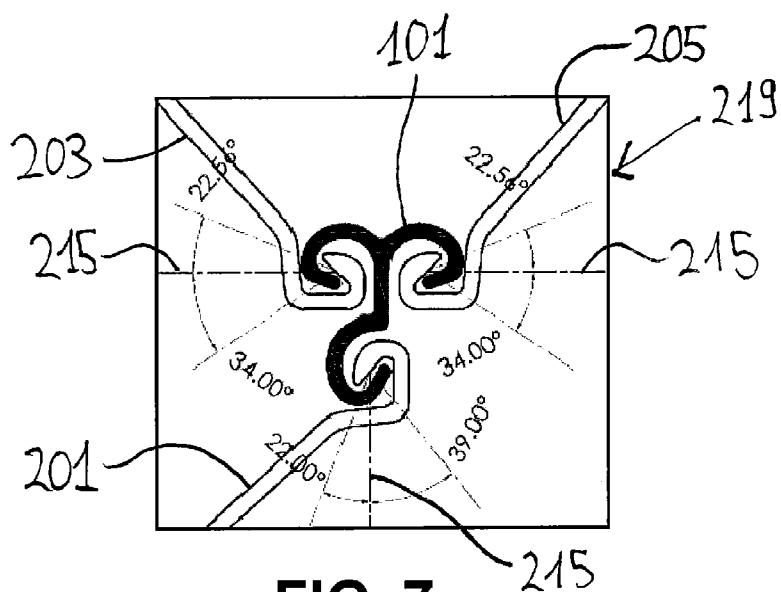


FIG. 7

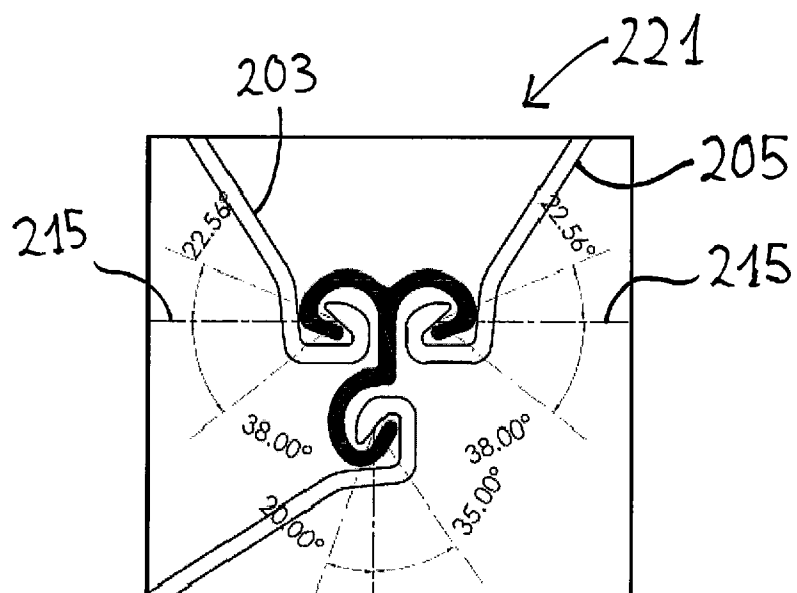


FIG. 8

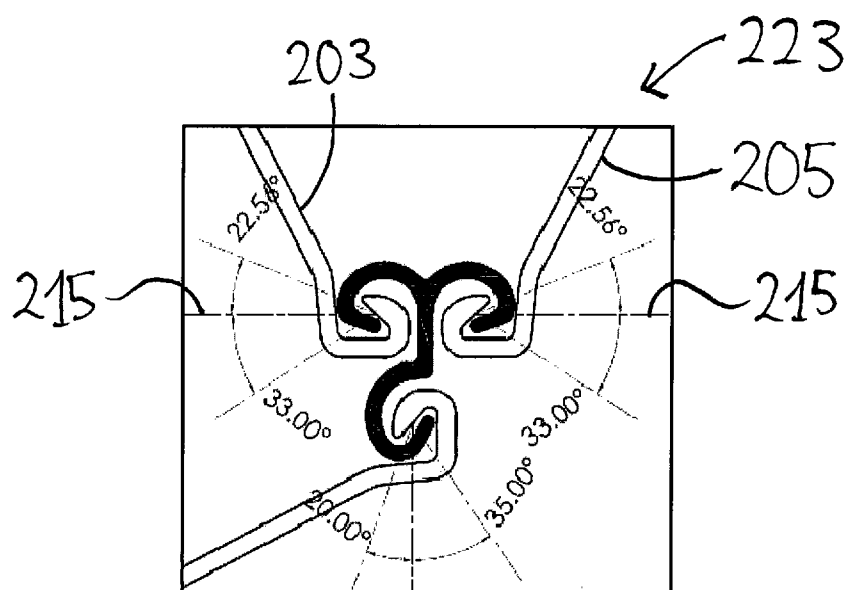
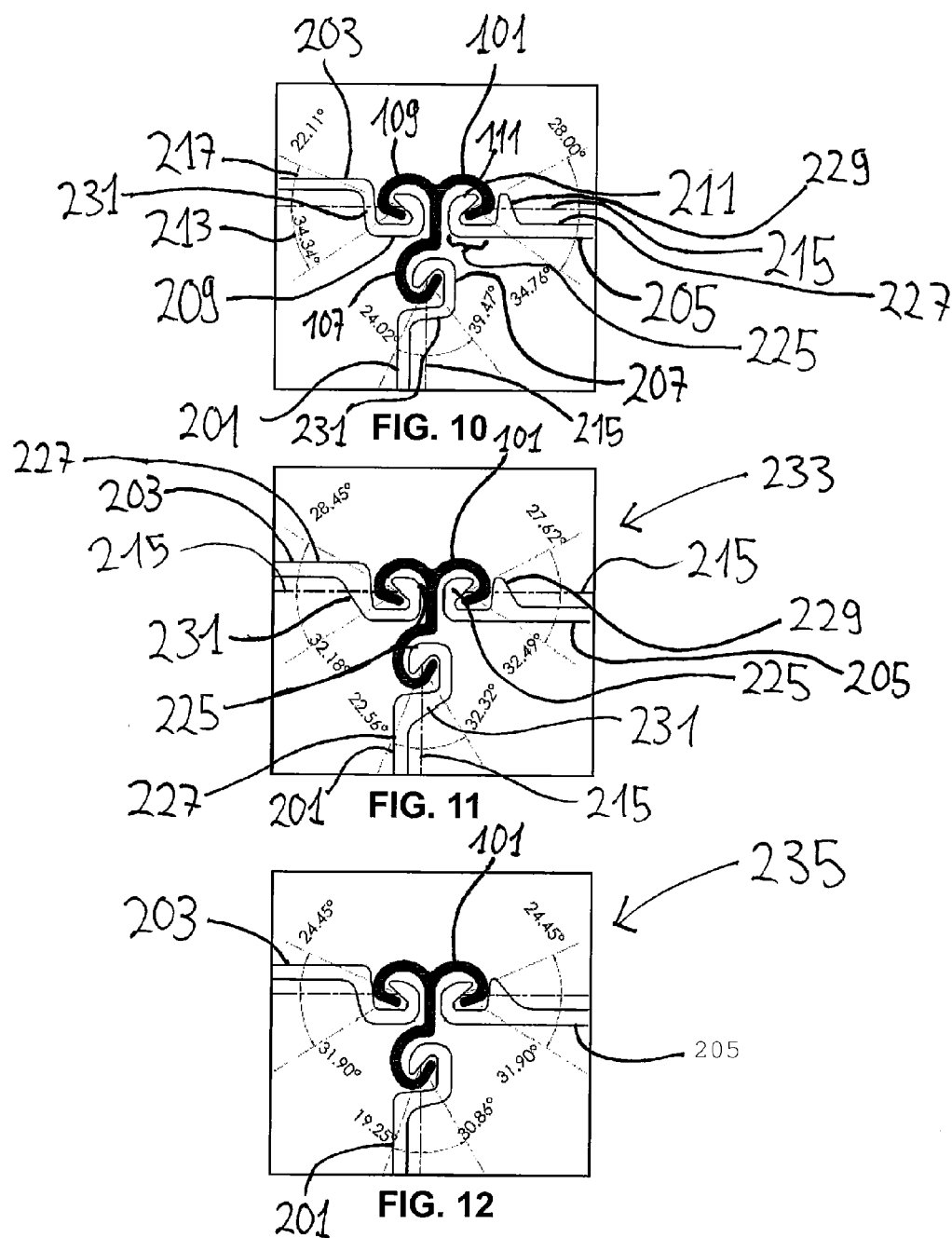


FIG. 9



CONNECTING PROFILE FOR CONNECTING SHEET PILES OF A SHEET PILE WALL

[0001] This application claims priority under 35 U.S.C. §119(e) to U.S. provisional patent application 61/843,083, filed Jul. 5, 2013. Application 61/843,083 is incorporated herein by reference in its entirety.

TECHNICAL FIELD

[0002] The disclosure relates to a connecting profile for connecting sheet piles of a sheet pile wall.

BACKGROUND

[0003] Connecting profiles for connecting sheet piles are generally known in the prior art, for example from DE 298 21 624 U1. DE 298 21 624 U1 describes different connecting elements for sheet piles. These connecting elements comprise one or more hook strips with different shape.

SUMMARY

[0004] It is an object of the present invention to provide an enhanced connecting profile for connecting sheet piles. In particular it is an object of the present invention to provide an enhanced connecting profile by means of which a great amount of applications for connecting sheet piles is achieved with one single connecting profile.

[0005] This object is achieved by a device according to independent claim 1.

[0006] It has been discovered by the invention that connecting elements having two hook strips as described in DE 298 21 624 U1 only cover a certain portion of applications currently used in the field of sheet pile connecting. Another portion of applications in the field of sheet pile connecting is covered by sheet piles having three hook strips. The solution according to the present invention addresses this problem and provides a connecting profile covering all desired applications in the field of sheet pile connecting. At the same time, the connecting profile according to the present invention provides the full functionality of all connecting profiles described in DE 298 21 624 U1.

[0007] The features and preferred embodiments of the connecting profile according to the present invention are described in the following as seen in cross section of the connecting profile, i.e. in a viewing direction parallel to the longitudinal extension of the connecting profile. The longitudinal extension of the connecting profile can be understood as the extension of the connecting profile in driving direction when the connecting profile is driven into the ground. Preferably, the cross section of the connecting profile is substantially constant over the longitudinal extension of the connecting profile.

[0008] The connecting profile according to the present invention comprises a substantially straight central strip. The term “straight central strip” can be understood as a strip which is straight along a longitudinal axis of the central strip, the longitudinal axis being perpendicular to the longitudinal extension of the connecting profile.

[0009] The connecting profile according to the present invention further comprises a first, second and third hook strip. The first, second and third hook strip each extend from the central strip. When it is stated in this application that an element, such as a hook strip, extends from another element, such as a central strip, this is to be understood that the element

extends directly or indirectly from the other element. Extending indirectly is to be understood that the element extends from the other element with at least one intermediate element arranged between the element and the other element. In other words, the expression “extending from” includes both meanings as described above unless it is explicitly stated.

[0010] The first, second and third hook strips include each a curved section and a substantially straight end section. However, each hook strip is not limited to such two elements. Preferably, the curved section is formed by a circular section, preferably a partially circular section. A partially circular section can be understood a portion of a whole circle such as a quarter of a full circle. The end section preferably extends directly from the curved section and forms a free end of the hook strip. This design of the hook section provides the following advantage: a sheet pile, which is interlocked with one of the hook strips of the connecting profile, may swivel relatively to the connecting profile, in particular in an angle relative to the connecting profile as seen in cross section. In other words, the connecting profile may rotate relative to the sheet piles connected by the connecting profile. At the same time, the lock of the sheet pile, e.g. a LARSSSEN-lock, is securely connected with the respective hook strip of the connecting profile.

[0011] In the following, preferred embodiments of the invention are described. It is an advantage of the invention that these embodiments of connecting profiles according to the present invention are compatible with each other and compatible with connecting profiles known from the art.

[0012] According to a first preferred embodiment of the connecting profile according to the present invention, the first hook strip extends from the central strip approximately perpendicular to a longitudinal axis of the central strip. The first hook strip extending from the central strip can, again as mentioned above, be understood as extending directly or indirectly with an intermediate element from the central strip. The term “perpendicular” can be understood in a way that the first hook strip starts from the central strip in a direction forming together with the longitudinal axis of the central strip an angle of approximately 90°.

[0013] According to an enhancement of the first preferred embodiment, the first hook strip includes an intermediate transition section extending approximately perpendicular to the longitudinal axis of the central strip. Preferably the intermediate transition section is substantially straight. Further preferably, the intermediate transition section extends directly from the central strip and the curved section of the first hook strip extends directly from the transition section.

[0014] According to a second preferred embodiment of the connecting profile according to the present invention, each of the hook strips is attached directly to the central strip, preferably without a straight intermediate transition section between the central strip and the respective hook strip.

[0015] According to a further preferred enhancement of the first and second preferred embodiment of the connecting profile, the first hook strip includes a material accumulation at a side of the first hook strip facing the curved section of the second hook strip. Preferably, the material accumulation forms a knoll at the side of the first hook strip facing the curved section of the second hook strip. The knoll provides for a secure interlocking between the second hook strip of the connecting profile and a lock of a sheet pile interlocked with the second hook. At the same time, the knoll allows for use of the same connecting profile in different configurations, i.e.

the connecting profile is adapted to have different locks of sheet piles interlocked in the second hook strip.

[0016] In a third preferred embodiment of the connecting profile according to the present invention, the second and third hook strip extend from the central strip, and the second hook strip is a mirror image of the third hook strip, preferably if mirrored along a longitudinal axis of the central strip. Preferably, the second hook strip and third hook strip extend directly from the central strip. Further preferably, the first hook strip extends directly or indirectly from a first end of the central strip whereas the second hook strip and third hook strip extend directly from a second end of the central strip.

[0017] In an enhancement of the third embodiment of the connecting profile, an angle in the range from 60° to 80° , preferably of approximately 70° , is formed between the longitudinal axis of the central strip and a longitudinal axis of the end section of the second and third hook strip. In other words, the longitudinal axis of the central strip is angled relative to the longitudinal axis of the end section of the second and third hook strip with an angle in the range from 60° to 80° , preferably of approximately 70° . The longitudinal axis of the end section is to be understood as an axis directed along the longitudinal extension of the respective end section which extends perpendicular to the longitudinal extension of the connecting profile.

[0018] According to a fourth preferred embodiment of the connecting profile according to the present invention, the second and third hook strip extend from the central strip, and the second hook strip is a mirror image of the third hook strip, if mirrored along a longitudinal axis of the central strip and mirrored along an axis perpendicular to the longitudinal axis of the central strip. The relation between the second and third hook strip can be described in other words as follows: The second hook strip can be transformed to the third hook strip by two mirroring steps. First, the second hook strip has to be mirrored along a longitudinal axis of the central strip, and then secondly mirrored along an axis which is perpendicular to the longitudinal axis of the central strip. Preferably, this relation is achieved in a way that the curved section of the third hook strip extends directly from the curved section of the second hook strip and, thereby, having S-shape. Further preferably, a first end of the central strip extends directly from the curved section of the second hook strip and the first hook strip extends directly with its curved section from a second end of the central strip. In this latter case, the central strip and the curved section of the third hook strip partially overlap.

[0019] In a fifth embodiment of the connecting profile according to the present invention, the third hook strip comprises a substantially straight intermediate transition section extending approximately perpendicular to a longitudinal axis of the central strip, and preferably wherein the curved section of the third hook strip extends from the transition section. Preferably, the curved section of the third hook strip extends directly from the transition section and, further preferably, the transition section extends directly from the central strip.

[0020] In a preferred enhancement of the fifth embodiment of the connecting profile, the first hook strip and third hook strip extend from a first end of the central strip, and the second hook strip extends from a second end of the central strip. Preferably, the transition section of the first hook strip and the transition section of the third hook strip extend directly from the first end of the central strip.

[0021] According to a further enhancement of the fifth embodiment of the connecting profile, the free ends of the

first and/or third hook strip point toward the transition section, and/or the free end of the second hook strip points substantially toward the central strip. This arrangement of the respective free ends provides for a secure interlocking of a sheet pile lock, such as a LARSEN-lock, with the respective hook of the connecting profile according to the present invention while at the same time allowing such a lock of the sheet pile to swivel in an angle relative to the connecting profile as seen in cross section.

[0022] In an even further preferred enhancement of the fifth preferred embodiment of the connecting profile, an angle in the range from 60° to 80° , preferably of approximately 70° , is formed between a longitudinal axis of the transition section of the third hook strip and a longitudinal axis of the end section of the third hook strip. In other words, the longitudinal axis of the transition section of the third hook strip is angled relative to the longitudinal axis of the end section of the third hook strip with an angle in the range from 60° to 80° , preferably of approximately 70° . Again, this provides for a secure interlocking between a respective hook of the connecting profile and a lock of a sheet pile to be connected by means of the connecting profile according to the present invention.

[0023] In a sixth preferred embodiment of the connecting profile according to the present invention, the curved section of the first, second and/or third hook strip have semi-circular shape. This can be understood in a way that the curved section forms half of a circle, i.e. the angle between the starting point of the extension of the curved section and the end point of the extension of the curved section is approximately 180° .

[0024] In an enhancement of the sixth embodiment of the connecting profile, the free end of the second and/or third hook strip points toward the central strip.

[0025] According to a seventh preferred embodiment of the connecting profile according to the present invention, an angle in the range from 50° to 70° , preferably of approximately 60° , is formed between a longitudinal axis of the end section of the first hook strip and a longitudinal axis of the central strip. This provides for a secure interlocking between the first hook strip of the connecting profile and a lock of a sheet pile to be connected by means of the connecting profile while at the same time allowing the sheet pile to swivel in an angle relative to the connecting profile as seen in cross section.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] Preferred embodiments of the invention are described in connection with the drawings, wherein

[0027] FIG. 1 illustrates a first embodiment of a connecting profile according to the present disclosure,

[0028] FIG. 2 illustrates a second embodiment of the connecting profile according to the present disclosure,

[0029] FIG. 3 illustrates a third embodiment of the connecting profile according to the present disclosure,

[0030] FIG. 4 illustrates a fourth embodiment of a connecting profile according to the present disclosure,

[0031] FIG. 5 illustrates a fifth embodiment of a connecting profile according to the present disclosure, and

[0032] FIGS. 6 to 12 illustrate different configurations in which the second embodiment of the connecting profile as shown in FIG. 2 can be used.

DETAILED DESCRIPTION

[0033] FIGS. 1-5 show different embodiments of a connecting profile 101 in a cross sectional view, the viewing direction of which is parallel to a longitudinal extension 102 of the connecting profile which corresponds to the driving direction of the connecting profile when driven into the ground. In each of the embodiments shown in FIGS. 1-5 the connecting profile 101 has a straight central strip 103 which extends along a longitudinal axis 105 of the central strip 103, the longitudinal axis 105 being directed perpendicular to the longitudinal extension 102 of the connecting profile 101. The connecting profiles 101 shown in FIGS. 1-5 each comprise a first hook strip 107, a second hook strip 109 and a third hook strip 111. The respective first, second and third hook strip each include a curved section 113, 115 and 117 as well as a straight end section 119, 121 and 123, respectively. The respective end sections 119, 121 and 123 extend from the respective curved section 113, 115 and 117 and form a free end 125, 127 and 129 of the hook strip 107, 109 and 111, respectively. The free end 127 of the second hook strip 109 points substantially toward the central strip 103. The end section 119 of the first hook strip 107 has a longitudinal axis 137. The longitudinal axis 137 forms with the longitudinal axis 105 of the central strip 103 an angle of approximately 60°.

[0034] FIG. 1 shows the connecting profile 101, wherein the first hook strip 107, second hook strip 109 and third hook strip 111 extend from the central strip 103 in a way that each of the hook strips is attached directly to the central strip 103, i.e. without any straight intermediate transition section between the central strip and the respective hook strip 107, 109 and 111, respectively. The third hook strip 111 shown in FIG. 1 extends directly from the second hook strip 109. In other words the curved section 117 of the third hook strip 111 extends directly from the curved section 117 of the second hook strip 109. The curved sections of the second and third hook strip 109 and 111 have semicircular shape. Thereby, the third hook strip 111 and the second hook strip 109 form an S-shape. In other words, the second hook strip 109 is a mirror image of the third hook strip 111, if mirrored along the longitudinal axis 105 of the central strip 103 and then mirrored along an axis 131 which is directed perpendicular to the longitudinal axis 105 of the central strip 103.

[0035] In the connecting profile 101 shown in FIG. 1, the first hook strip 107 extends from a first end 133 of the central strip 103 and the second hook strip 109 and third hook strip 111 extend from a second end 135 of the central strip 103. The curved section 113 of the first hook strip 107 forms a part of a circle which is less than half of a circle.

[0036] The end sections 121 and 123 each have a longitudinal axis 139 and 141, respectively. The respective longitudinal axes 139 and 141 form an angle with the longitudinal axis 105 of the central strip 103 of approximately 60°.

[0037] In the connecting profile 101 as shown in FIG. 2, the second hook strip 109 and third hook strip 111 extend directly from a second end 135 of the central strip 103 and the first hook strip 107 extends directly from the first end 133 of the central strip 103. The first hook strip 107 extends from the central strip 103 substantially perpendicular to the longitudinal axis 105 of the central strip 103. The first hook strip 107 includes a material accumulation 143 formed at a side of the first hook strip 107 which faces the curved section 115 of the second hook strip 109. The second hook strip 109 is a mirror image of the third hook strip 111 if mirrored along the longitudinal axis 105 of the central strip 103.

The longitudinal axis 105 of the central strip 103 is angled relative to the respective longitudinal axes 139 and 141 of the respective end section 121 and 123 with an angle of approximately 70°.

[0038] The connecting profile 101 shown in FIG. 3 is similar to the connecting profile as shown in FIG. 2. Instead of the material accumulation 143 as shown in FIG. 2, the first hook strip 107 shown in FIG. 3 includes a straight intermediate transition section 145 which extends perpendicular to the longitudinal axis 105 of the central strip 103.

[0039] In both FIGS. 2 and 3, the free end 127 of the second hook strip 109 and the free end 129 of the third hook strip 111 point substantially toward the central strip 103.

[0040] FIG. 4 shows the connecting profile 101, wherein the second hook strip 109 extends from the second end 135 of the central strip 103. The longitudinal axis 139 of the end section 121 forms an angle with the longitudinal axis 105 of the central strip 103 of approximately 70°. The first hook strip 107 and third hook strip 111 extend from the first end 133 of the central strip 103. The first hook strip 107 includes a material accumulation 143 at a side which faces the curved section 115 of the second hook strip 109. The third hook strip 111 comprises a straight intermediate transition section 147 which extends from the first end 133 of the central strip 103 approximately perpendicular to the longitudinal axis 105 of the central strip 103. The curved section 117 of the third hook strip 111 extends directly from the transition section 147. The longitudinal axis 141 of the end section 123 forms an angle with a longitudinal axis 149 of the transition section 147 of approximately 70°.

[0041] The connecting profile 101 as shown in FIG. 5 is similar to the connecting profile as shown in FIG. 4. In contrast, the connecting profile 101 as shown in FIG. 5 does not have a material accumulation 143. Instead, the first hook strip 107 includes a straight intermediate transition section 145 which extends perpendicular to the longitudinal axis 105 of the central strip 103.

[0042] In both FIGS. 4 and 5, the free end 125 of the first hook strip 107 and the free end 129 of the third hook strip 111 point towards the transition section 147 of the third hook strip 111.

[0043] FIGS. 6 to 12 show in a cross-sectional views different configurations in which a connecting profile according to the present invention can be used, in particular the connecting profile 101 shown in FIG. 2. I.e. in each of the FIGS. 6 to 12, sheet piles are illustrated which are connected by means of the connecting profile 101. The same and similar features are indicated by the same numerals in FIGS. 6 to 12.

[0044] Each connecting profile 101 connects a first sheet pile 201, second sheet pile 203 and third sheet pile 205 by means of the first, second and third hook strip 107, 109 and 111, respectively, being interlocked with a Larssen-lock 207, 209 and 211 of the respective sheet pile 201, 203 and 205. The sheet piles 201, 204 and 205 are connected with the respective hook strips 107, 109 and 111 in a way that they may swivel in an angle perpendicular to the viewing direction. The swiveling angles are indicated each in FIGS. 6 to 12 by a leftward arrow 213 representing a swiveling leftwards of a neutral position 215 (counter clockwise) and a rightward arrow 217 representing a swiveling rightwards of the neutral position 215 (clockwise). The terms leftward arrow 213 and rightward arrow 217 are to be understood in a way that these arrows are

located leftwards and rightwards of the neutral position **215** but not in a way that they would only point leftwards or rightwards.

[0045] FIGS. 6 to 9 show similar arrangements of the connecting profile **101** being connected to Larssen-locks of sheet piles. These arrangements differ with regard to the dimensions and designs of the sheet piles, in particular with regard to swiveling ranges of the sheet piles.

[0046] The first sheet pile **201** shown in FIG. 6 may swivel leftwards by about 35° from the neutral position **215** and rightwards by about 20° from the neutral position **215**. The second sheet pile **203** shown in FIG. 6 may swivel leftwards by about 34° from the neutral position **215** and rightwards by about 20.56° from the neutral position **215**. The third sheet pile **205** shown in FIG. 6 may swivel leftwards by about 20.56° from the neutral position **215** and rightwards by about 34° from the neutral position **215**.

[0047] An arrangement **219** of the connecting profile **101** shown in FIG. 7 differs from the arrangement shown in FIG. 6 in that the first sheet pile **201** shown in FIG. 7 may swivel leftwards by about 39° from the neutral position **215** and rightwards by about 22° from the neutral position **215**. Furthermore, in contrast to the arrangement shown in FIG. 6, the second sheet pile **203** shown in FIG. 7 may swivel rightwards by about 22.56° from the neutral position **215** and the third sheet pile **205** shown in FIG. 7 may swivel leftwards by about 22.56° from the neutral position **215**. This is achieved by a different design of the sheet piles shown in FIG. 7 compared to the respective sheet piles shown in FIG. 6.

[0048] An arrangement **221** of the connecting profile **101** shown in FIG. 8 differs from the arrangement shown in FIG. 6 in that the second sheet pile **203** shown in FIG. 8 may swivel leftwards by about 38° from the neutral position **215** and rightwards by about 22.56° from the neutral position **215**. Furthermore, the third sheet pile **205** shown in FIG. 8 may swivel leftwards by about 22.56° from the neutral position **215** and rightwards by about 38° from the neutral position **215**. This is achieved by a different design of the second and third sheet pile **203** and **205** shown in FIG. 8 compared to the second and third sheet pile **203** and **205** shown in FIG. 6.

[0049] The arrangement **223** of the connecting profile **101** shown in FIG. 9 differs from the arrangement shown in FIG. 6 in that the second sheet pile **203** shown in FIG. 9 may swivel leftwards by about 33° from the neutral position **215** and rightwards by about 22.56° from the neutral position **215**. Furthermore, the third sheet pile **205** shown in FIG. 9 may swivel leftwards by about 22.56° from the neutral position **215** and rightwards by about 33° from the neutral position **215**. This is achieved by a different design of the second and third sheet pile **203** and **205** shown in FIG. 9 compared to the second and third sheet pile **203** and **205** shown in FIG. 6.

[0050] FIGS. 10 to 12 show similar arrangements of the connecting profile **101** being connected to Larssen-locks of sheet piles. These arrangements differ with regard to the dimension and designs of the sheet piles, in particular with regard to swiveling ranges of the sheet piles and material distribution of each sheet pile.

[0051] The first sheet pile **201** shown in FIG. 10 may swivel leftwards by about 39.47° from the neutral position **215** and rightwards by about 24.02° from the neutral position **215**. The second sheet pile **203** shown in FIG. 10 may swivel leftwards by about 34.34° from the neutral position **215** and rightwards by about 22.11° from the neutral position **215**. The third sheet

pile **205** shown in FIG. 10 may swivel leftwards by about 28° from the neutral position **215** and rightwards by about 34.76° from the neutral position **215**.

[0052] The Larssen-lock **211** of the third sheet pile **205** is similar to the Larssen-locks **207** and **209** in the area of a head portion **225**. In contrast to the first sheet pile **201** and second sheet pile **203**, a sheet pile wall **227** of the third sheet pile **205** is arranged in longitudinal extension of the head portion **225** of the Larssen-lock **211**. The Larssen-lock **211** has a material accumulation **229** instead of a transition portion **231** of the first and second sheet pile **201** and **203**.

[0053] An arrangement **233** of the connecting profile **101** shown in FIG. 11 differs from the arrangement shown in FIG. 10 in that the first sheet pile **201** shown in FIG. 11 may swivel leftwards by about 32.32° from the neutral position **215** and rightwards by about 22.56° from the neutral position **215**. The second sheet pile **203** shown in FIG. 11 may swivel leftwards by about 32.18° and rightwards by about 28.45° . Furthermore, the third sheet pile **205** shown in FIG. 11 may swivel leftwards by about 27.62° from the neutral position **215** and rightwards by about 32.49° from the neutral position **215**. This is achieved by a different design of the second and third sheet pile **203** and **205** shown in FIG. 11 compared to the second and third sheet pile **203** and **205** shown in FIG. 10. In particular, the first sheet pile **201** and second sheet pile **203** shown in FIG. 11 have a thicker transition portion **231**, a thicker sheet pile wall **227** and a thicker head portion **225** compared to the respective transition portion, sheet pile wall and head portion of the first and second sheet pile shown in FIG. 10. Furthermore, the third sheet pile **205** shown in FIG. 11 has a thicker material accumulation **229** and a thicker head portion **225** compared to the respective material accumulation and head portion of the third sheet pile shown in FIG. 10.

[0054] An arrangement **235** of the connecting profile **101** shown in FIG. 12 differs from the arrangement shown in FIG. 11 in that the first sheet pile **201** shown in FIG. 12 may swivel leftwards by about 30.86° from the neutral position **215** and rightwards by about 19.25° from the neutral position **215**. The second sheet pile **203** shown in FIG. 12 may swivel leftwards by about 31.9° and rightwards by about 24.45° . Furthermore, the third sheet pile **205** shown in FIG. 12 may swivel leftwards by about 24.45° from the neutral position **215** and rightwards by about 31.9° from the neutral position **215**. This is again achieved by different designs of the sheet pile wall, head portion as well as the transition portion or material accumulation of the respective sheet piles shown in FIG. 12 compared to the respective design of the sheet piles shown in FIG. 11.

Reference numerals

[0055]	101 connecting profile
[0056]	102 longitudinal extension of the connecting profile
[0057]	103 central strip
[0058]	105 longitudinal axis of the central strip
[0059]	107 first hook strip
[0060]	109 second hook strip
[0061]	111 third hook strip
[0062]	113 curved section of the first hook strip
[0063]	115 curved section of the second hook strip
[0064]	117 curved section of the third hook strip
[0065]	119 end section of the first hook strip
[0066]	121 end section of the second hook strip
[0067]	123 end section of the third hook strip
[0068]	125 free end of the first hook strip

[0069] 127 free end of the second hook strip
 [0070] 129 free end of the third hook strip
 [0071] 131 axis
 [0072] 133 first end of the central strip
 [0073] 135 second end of the central strip
 [0074] 137 longitudinal axis of the end section of the first hook strip
 [0075] 139 longitudinal axis of the end section of the second hook strip
 [0076] 141 longitudinal axis of the end section of the third hook strip
 [0077] 143 material accumulation
 [0078] 145 intermediate transition section
 [0079] 147 intermediate transition section
 [0080] 149 longitudinal axis of the transition section
 [0081] 201 first sheet pile
 [0082] 203 second sheet pile
 [0083] 205 third sheet pile
 [0084] 207, 209, 211 Larssen-lock
 [0085] 213 leftward arrow
 [0086] 215 neutral position
 [0087] 217 rightward arrow
 [0088] 219 arrangement of FIG. 7
 [0089] 221 arrangement of FIG. 8
 [0090] 223 arrangement of FIG. 9
 [0091] 225 head portion
 [0092] 227 sheet pile wall
 [0093] 229 material accumulation
 [0094] 231 transition portion
 [0095] 233 arrangement of FIG. 11
 [0096] 235 arrangement of FIG. 12

What is claimed is:

1. A connecting profile for connecting sheet piles of a sheet pile wall, comprising:
 - a substantially straight central strip, and
 - a first, second and third hook strip, extending from the central strip,
 wherein the first, second and third hook strip include each a curved section) and a substantially straight end section extending from the curved section and forming a free end of the hook strip.
2. A connecting profile according to claim 1, wherein the first hook strip extends from the central strip approximately perpendicular to a longitudinal axis of the central strip.
3. A connecting profile according to claim 2, wherein the first hook strip includes a substantially straight, intermediate transition section extending approximately perpendicular to the longitudinal axis of the central strip.
4. A connecting profile according claim 1, wherein each of the hook strips is attached directly to the central strip, without a straight intermediate transition section between the central strip and the respective hook strip.
5. A connecting profile according to claim 2, wherein the first hook strip includes a material accumulation at a side of the of the first hook strip facing the curved section of the second hook strip.
6. A connecting profile according to claim 1, wherein the second and third hook strip extend from the central strip, and

wherein the second hook strip is a mirror image of the third hook strip,

mirrored along a longitudinal axis of the central strip.

7. A connecting profile according to claim 6, wherein an angle in the range from 60° to 80° is formed between the longitudinal axis of the central strip and a longitudinal axis of the end section of the second and third hook strip.

8. A connecting profile according to claim 6, wherein an angle of approximately 70° is formed between the longitudinal axis of the central strip and a longitudinal axis of the end section of the second and third hook strip.

9. A connecting profile according to claim 1, wherein the second and third hook strip extend from the central strip, and wherein the second hook strip is a mirror image of the third hook strip mirrored along a longitudinal axis of the central strip and mirrored along an axis perpendicular to the longitudinal axis of the central strip.

10. A connecting profile according to claim 1, wherein the third hook strip comprises a substantially straight, intermediate transition section extending approximately perpendicular to a longitudinal axis of the central strip, and wherein the curved section of the third hook strip extends from the transition section.

11. A connecting profile according to claim 10, wherein the first and third hook strip extend from a first end of the central strip, and wherein the second hook strip extends from a second end of the central strip.

12. A connecting profile according to claim 10, wherein the free ends of the first and/or third hook strip point toward the transition section, and/or wherein the free end of the second hook strip points substantially toward the central strip.

13. A connecting profile according to claim 10, wherein an angle in the range from 60° to 80° is formed between a longitudinal axis of the transition section of the third hook strip and a longitudinal axis of the end section of the third hook strip.

14. A connecting profile according to claim 10, wherein an angle of approximately 70° is formed between a longitudinal axis of the transition section of the third hook strip and a longitudinal axis of the end section of the third hook strip.

15. A connecting profile according to claim 1, wherein the curved section of the first, second and/or third hook strip have semicircular shape.

16. A connecting profile according to claim 15, wherein the free end of the second and/or third hook strip points toward the central strip.

17. A connecting profile according to claim 1, wherein an angle in the range from 50° to 70° is formed between a longitudinal axis of the end section of the first hook strip and a longitudinal axis of the central strip.

18. A connecting profile according to claim 1, wherein an angle of approximately 60° is formed between a longitudinal axis of the end section of the first hook strip and a longitudinal axis of the central strip.

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