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(54) **SHOE**  
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**CHAUSSURE**

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## Description

[0001] The invention relates to a shoe, comprising a front part and a back part, and provided with a sole and an upper placed on the sole, wherein the sole incorporates a hinge pivotally connecting the front part and the back part, and wherein the upper is divided into a front upper and a back upper, which are movable in relation to one another from an open position in which the sole is bent, to a closed position in which the sole is extended.

[0002] The Dutch patent application NL-A-1020208, and the American patents US-A-5,184,410 and US-A-5,481,814 each independently disclose such a shoe.

[0003] The latest proposal for such a shoe as disclosed in the above-mentioned reference, viz. NL-A-1020208 of which the complete contents are herewith deemed to be inserted, mentions that various motives may exist for wishing to put on a shoe without using the hands or bending forward. These same motives apply for taking the shoe off again.

[0004] A drawback of the shoe referred to in the NL-A-1020208 is that for unlocking the hinge, the same comprises a lock provided with an operating organ at the rear side of the shoe.

[0005] A drawback of the shoe known from the American patent US-A-5,481,814 is that it has a spring-loaded front and back part, so that relatively much force is needed to adjust the shoe from a closed position to an open position.

[0006] A drawback of the shoe described in the American patent US-A-5,184,410 is that its upper is provided with a locking system that, in order to readjust the shoe from a closed position to an open position, has to be released manually.

[0007] All the above-mentioned known shoes have the drawback that the construction of their uppers does not solve the problem of the shoe providing less support as a result of the upper being divided into a front upper and a back upper,.

[0008] It is the object of the invention to overcome one or several of the above-mentioned problems and to provide an alternative for the shoes already known from the prior art.

[0009] To this end, the shoe according to the invention is characterised by one or several of the appended claims.

[0010] In a first aspect, the shoe according to the invention is characterised in that the front upper and the back upper are provided with preformed stiffening means extending from the sole into the upper. This endows the upper with sufficient firmness so that a user of the shoes receives adequate support. Stiffening means that may be effectively used include, for example, strips of sufficient stiffness, which are incorporated in the upper.

[0011] Practice has shown that the upper can be provided with sufficient stiffness by embodying the shoe such that in the closed position, the front upper and the back upper possess abutting edges, and the stiffening

means in the front upper and back upper are provided near these edges.

[0012] As already mentioned above, it is standard practice to embody the shoe with a hinge that can be locked and that possesses an operating organ for unlocking the hinge. Another aspect of the invention relates to the fact that a shoe provided with such an unlockable hinge is characterised in that the operating organ can be operated from a side of the sole. This affords a simple possibility, with shod or unshod feet, to conveniently unlock the lock of the hinge such that the shoe can be adjusted from the closed position to the open position without having to bend down.

[0013] For the application of such an unlockable hinge that can be operated from the side of the sole several variations are possible.

[0014] A first embodiment is characterised in that the hinge has a lock comprising a spring-loaded pin, which is provided with a projection that intermates with a recess in the hinge in such a way that when the projection is in the recess, the hinge is locked, and that at the side of the sole an operating button is provided for adjusting the pin such that the projection disengages the recess and unlocks the hinge.

[0015] A second embodiment serving the purpose is characterised in that the hinge has a lock, comprising a leaf spring which in the closed position with the sole being extended, abuts to a locking surface of the hinge, adjacent to which locking surface a recess is provided, and in that at the side of the sole an operating button is provided for moving the leaf spring towards the recess to release the lock.

[0016] Particular attention is drawn to the fact that the above-mentioned embodiments of the lockable and, with the aid of the control button, unlockable hinge are certainly not exhausted and that numerous variations are feasible in which such a hinge may be embodied.

[0017] The invention as characterised in the appended claims will be explained in more detail by way of a single exemplary embodiment and with reference to the drawing.

[0018] The drawing shows in:

- Figure 1, a shoe according to the invention in the open position;
- Figure 2, a shoe according to the invention in the closed position;
- Figure 3, a detail of the shoe according to the invention in an open position, and
- Figure 4, a detail of the shoe according to the invention in the closed position.

[0019] Similar components in the figures carry identical reference numerals.

[0020] With reference first to Figure 1, the shoe 1 according to the invention is shown, being put on by a user of whom a part of the foot 2 is shown. To this end the shoe 1 is placed in an open position.

[0021] The shoe 1 according to the invention comprises a front part 3 and a back part 4 and is provided with a sole 5. On the sole 5 an upper 6, 7 is placed.

[0022] Figure 1 shows that in the sole 5 a hinge 8 is incorporated, which pivotally connects the front part 3 with the back part 4.

[0023] The upper 6, 7 is divided into a front upper 6 and a back upper 7, which can be moved in relation to each other to the open position shown in Figure 1 with the sole 5 being bent, and to the closed position shown in Fig. 2, with the sole 5 being extended.

[0024] Both Figure 1 and Figure 2 show that the front upper 6 and the back upper 7 are provided with preformed stiffening means 9, 10 extending from the sole 5 into the upper 6, 7. In the embodiment shown, these are preformed strips that extend in an upright orientation from the sole 5 into the front upper 6 and the back upper 7.

[0025] Figure 2 shows that in the closed position the front upper 6 and the back upper 7 possess abutting edges 11, 12, and that the stiffening means 9, 10 are provided near these edges 11, 12 in the front upper 6 and the back upper 7.

[0026] Referring to Figures 3 and 4, explaining that the hinge 8, which is incorporated in the sole 5, can be locked and possesses an operating organ 13 that can be operated from a side of the sole 5.

[0027] Figures 3 and 4 thus show an embodiment of a shoe according to the invention, with Figure 3 representing an open position and Figure 4 a closed position of the shoe.

[0028] To this end, the hinge 8 shown in Figure 3 and Figure 4 possesses a lock, comprising a spring 14 exerting a spring load on a pin 15 on which rings 16 are placed, provided with projections 17. These projections 17 intermate with recesses 18 in the hinge 8 in such a way that when the projections 17 engage the respective recesses 18, as shown in Figure 4, the hinge 8 is locked.

[0029] By operating the operating organ 13, that is to say the button 13 located at the side of the sole 5 and of the hinge 8, the pin 15 can be moved in the direction of arrow A, causing the projections 17 to disengage the recesses 18, thereby unlocking the hinge 8. In this position the shoe may subsequently be changed from the locked position shown in Figure 4 to the open position shown in Figure 3.

[0030] To the person skilled in the art it is obvious that the above given exemplary embodiment represents only one of the many possible variations in which the lockable hinge may be embodied. Therefore the exemplary embodiment given here must be understood as an elucidation to the appended claims that determine the protective scope merited by the invention, without limiting said protective scope to anything shown in the exemplary embodiment. Within the protective scope numerous variants are conceivable, which may include for example, the embodiment of the shoe according to the invention wherein the hinge has a lock comprising a leaf spring, which in the closed position with the sole being extended, abuts

to a locking surface of the hinge, adjacent to which locking surface a recess is provided, and wherein at the side of the sole an operating button is provided for moving the leaf spring towards the recess in order to release the lock.

[0031] However, other variations are equally feasible. The shoe according to the invention may also be provided with other kinds of additions without detracting in any way from the protective scope merited by the invention. For example, it is possible to provide the sole 5 of the shoe with grooves for holding a liquid deodorant which for some users, and especially for people in the vicinity of such users, may be a welcome addition and an assurance that they will be able to confidently change the shoe according to the invention from the closed position to the open position.

## Claims

1. A shoe (1), comprising a front part (3) and a back part (4), and provided with a sole (5), and an upper (6,7) placed on the sole (5), wherein the sole (5) incorporates a hinge (8) pivotally connecting the front part (3) and the back part (4), and wherein the upper is divided into a front upper (6) and a back upper (7), which are movable in relation to one another from an open position in which the sole (5) is bent, to a closed position in which the sole (5) is extended, **characterised in that** the front upper (6) and the back upper (7) are provided with preformed stiffening means (9,10) extending from the sole (5) into the upper (6,7).
2. A shoe (1) according to claim 1, wherein in the closed position, the front upper (6) and the back upper (7) possess abutting edges (11,12), and the stiffening means (9,10) in the front upper (6) and back upper (7) are provided near these edges (11,12).
3. A shoe (1) according to claim 1 or 2, wherein the hinge (8) can be locked and possesses an operating organ (13) **characterised in that** the operating organ (13) can be operated from a side of the sole (5).
4. A shoe (1) according to claim 3, **characterised in that** the hinge (8) has a lock, comprising a spring-loaded pin (15), which is provided with a projection (17) that intermates with a recess (18) in the hinge (8) in such a way that when the projection (17) is in the recess (18), the hinge is locked, and **in that** at the side of the sole (5) an operating button (13) is provided for adjusting the pin (15) such that the projection (17) disengages the recess (18) and unlocks the hinge.
5. A shoe (1) according to claim 3, **characterised in that** the hinge has a lock, comprising a leaf spring which in the closed position with the sole being ex-

tended, abuts to a locking surface of the hinge, adjacent to which locking surface a recess is provided, and **in that** at the side of the sole an operating button is provided for moving the leaf spring towards the recess to release the lock.

tigungsknopf bereitgestellt ist, um die Blattfeder zu der Vertiefung zu bewegen, um Schloss freizugeben.

5

## Patentansprüche

1. Schuh (1), der einen Vorderteil (3) und einen Hinterteil (4) aufweist und der mit einer Sohle (5) und einem Obermaterial (6, 7), das auf der Sohle (5) platziert ist, versehen ist, wobei die Sohle (5) ein Scharnier (8) umfasst, das den Vorderteil (3) und den Hinterteil (4) schwenkend verbindet, und wobei das Obermaterial in ein vorderes Obermaterial (6) und ein hinteres Obermaterial (7) geteilt ist, die zueinander von einer offenen Position, in der die Sohle (5) gebogen ist, zu einer geschlossenen Position, in der die Sohle (5) gestreckt ist, beweglich sind, **dadurch gekennzeichnet, dass** das vordere Obermaterial (6) und das hintere Obermaterial (7) mit vorgeformten Versteifungsmitteln (9, 10) versehen sind, die sich von der Sohle (5) in das Obermaterial (6, 7) erstrecken.
2. Schuh (1) nach Anspruch 1, wobei das vordere Obermaterial (6) und das hintere Obermaterial (7) in der geschlossenen Position aneinander grenzende Kanten (11, 12) aufweisen, und wobei die Versteifungsmittel (9, 10) in dem vorderen Obermaterial (6) und in dem hinteren Obermaterial (7) in der Nähe dieser Kanten (11, 12) bereitgestellt sind.
3. Schuh (1) nach Anspruch 1 oder 2, wobei das Scharnier (8) verriegelt werden kann und ein Betätigungselement (13) aufweist, **dadurch gekennzeichnet, dass** das Betätigungselement (13) von einer Seite der Sohle (5) her betätigt werden kann.
4. Schuh (1) nach Anspruch 3, **dadurch gekennzeichnet, dass** das Scharnier (8) ein Schloss hat, das einen Stift (15) mit Federbelastung aufweist, der mit einem Vorsprung (17) versehen ist, der in eine Vertiefung (18) in dem Scharnier (8) derart passt, dass, wenn sich der Vorsprung (17) in der Vertiefung (18) befindet, das Scharnier verriegelt ist, und **dadurch, dass** an der Seite der Sohle (5) ein Betätigungsknopf (13) zum Einstellen des Stifts (15) bereitgestellt ist, so dass der Vorsprung (17) aus der Vertiefung (18) austritt und das Scharnier entriegelt.
5. Schuh (1) nach Anspruch 3, **dadurch gekennzeichnet, dass** das Scharnier ein Schloss hat, das eine Blattfeder aufweist, die in der geschlossenen Position, bei der die Sohle gestreckt ist, an eine Verriegelungsfläche des Scharniers grenzt, wobei neben der Verriegelungsfläche eine Vertiefung bereitgestellt ist, und dass an der Seite der Sohle ein Betä-

## Revendications

1. Chaussure (1), comprenant une partie avant (3) et une partie arrière (4), et munie d'une semelle (5), et une empeigne (6, 7) placée sur la semelle (5), dans laquelle la semelle (5) incorpore une charnière (8) reliant à pivotement la partie avant (3) et la partie arrière (4), et dans laquelle l'empeigne est divisée en une empeigne avant (6) et une empeigne arrière (7), qui sont mobiles l'une par rapport à l'autre à partir d'une position ouverte dans laquelle la semelle (5) est courbée, à une position fermée dans laquelle la semelle (5) est étendue, **caractérisée en ce que** l'empeigne avant (6) et l'empeigne arrière (7) sont munies de moyens raidisseurs préformés (9, 10) s'étendant à partir de la semelle (5) vers l'empeigne (6, 7).
2. Chaussure (1) selon la revendication 1, dans laquelle dans la position fermée, l'empeigne avant (6) et l'empeigne arrière (7) possèdent des bords d'aboutement (11, 12), et les moyens raidisseurs (9, 10) dans l'empeigne avant (6) et l'empeigne arrière (7) sont disposés à proximité de ces bords (11, 12).
3. Chaussure (1) selon les revendications 1 ou 2, dans laquelle la charnière (8) peut être verrouillée et possède un élément d'actionnement (13) **caractérisée en ce que** l'élément d'actionnement (13) peut être actionné à partir d'un côté de la semelle (5).
4. Chaussure (1) selon la revendication 3, **caractérisée en ce que** la charnière (8) possède un verrou, comprenant une broche à ressort (15), qui est munie d'une saillie (17) qui s'accouple avec un évidement (18) dans la charnière (8) de telle manière que lorsque la saillie (17) est dans l'évidement (18), la charnière est verrouillée, et **en ce qu'**un bouton d'actionnement (13) est prévu au niveau du côté de la semelle (5) pour l'ajustement de la broche (15) de sorte que la saillie (17) soit libérée de l'évidement (18) et déverrouille la charnière.
5. Chaussure (1) selon la revendication 3, **caractérisée en ce que** la charnière possède un verrou, comprenant un ressort à lames qui dans la position fermée avec la semelle étendue, vient en butée avec une surface de verrouillage de la charnière, à côté de laquelle surface de verrouillage est prévu un évidement, et **en ce qu'**un bouton d'actionnement est prévu au niveau du côté de la semelle pour déplacer le ressort à lames vers l'évidement, afin de libérer le verrou.

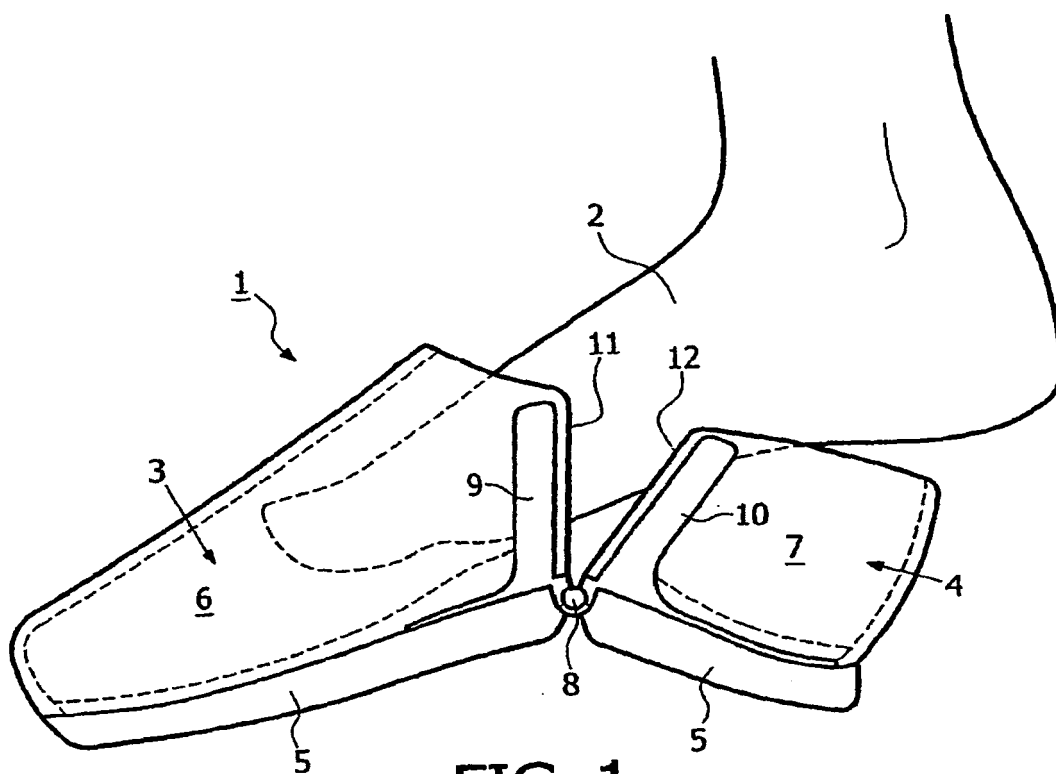


FIG. 1

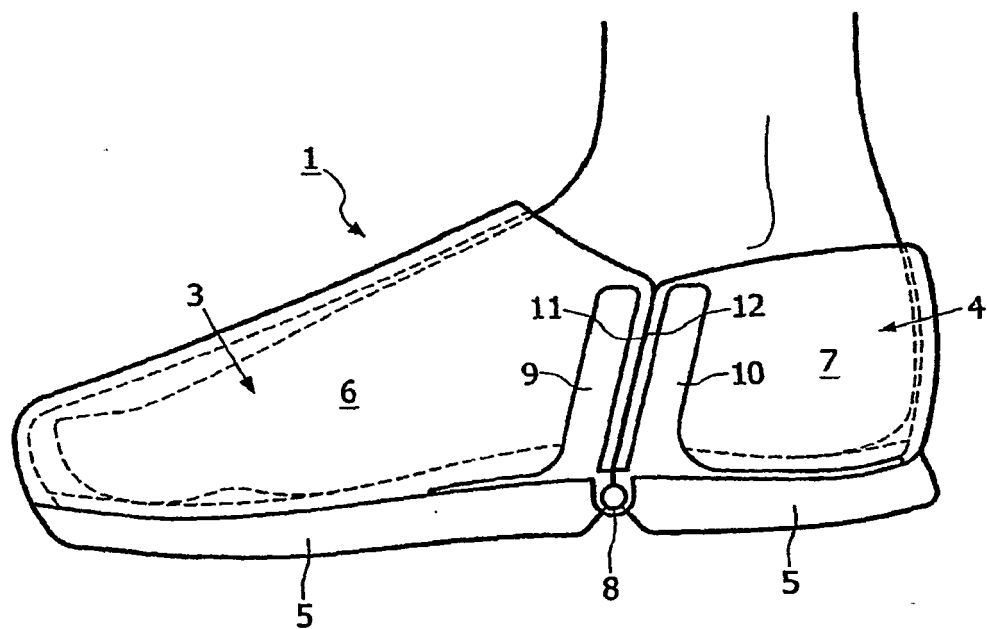


FIG. 2

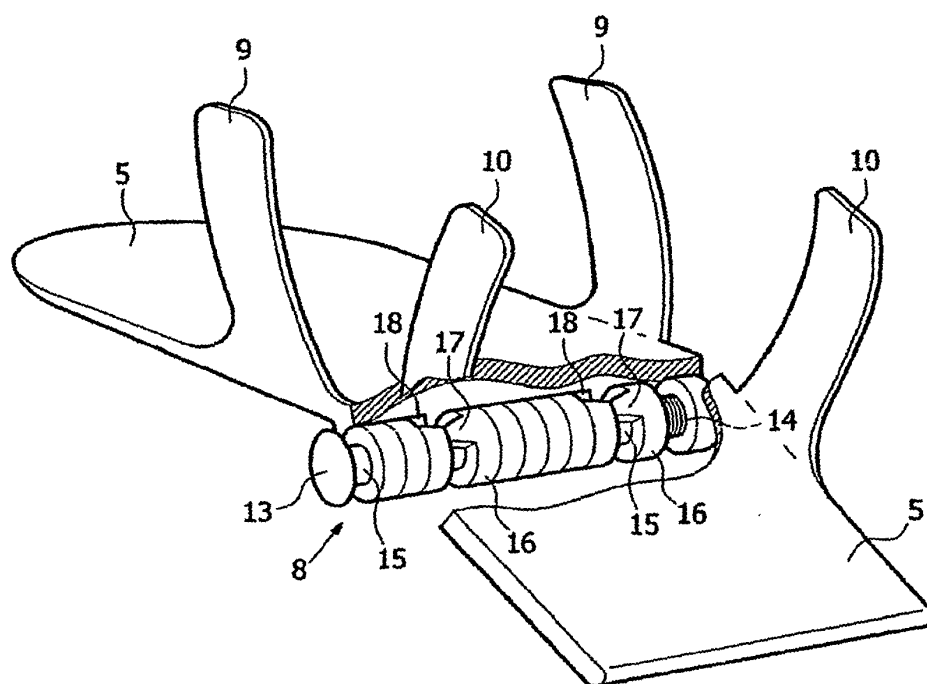


FIG. 3

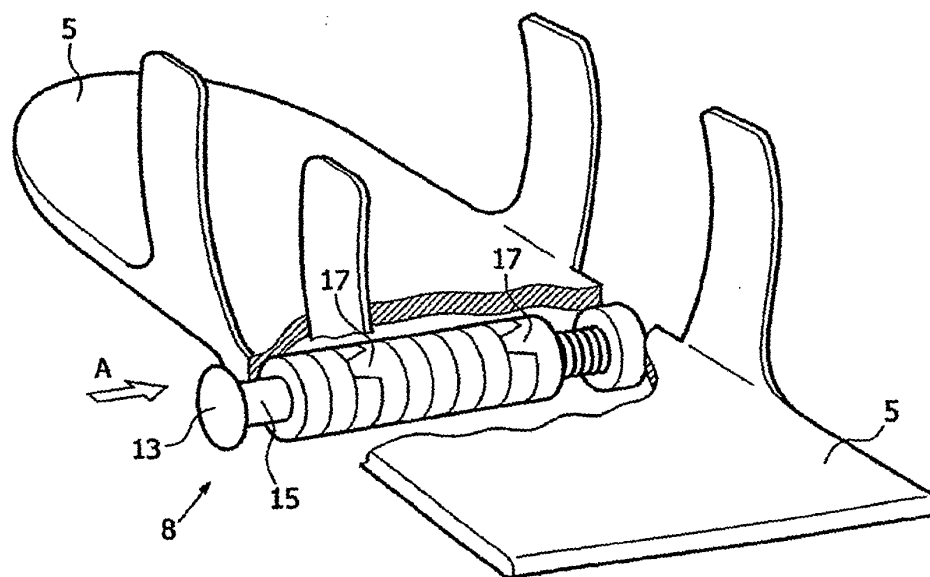


FIG. 4

**REFERENCES CITED IN THE DESCRIPTION**

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