Claims

1. Friction assembly ~~(1)~~ for a braking system for railway rolling stock, said friction assembly ~~(1)~~ comprising ~~on the one hand~~ :

a brake head ~~(3)~~ comprising a lower face ~~(31),~~ an upper face ~~(32),~~ and at least one secondary channel ~~(38) of~~having a central axis A ~~which~~ , the at least one secondary channel connecting connects said lower face ~~(31)~~ and an upper face ~~(32); on the other hand~~ ;

at least one plate ~~(2)~~ made of a friction material and comprising a first face ~~(21)~~ which is the friction face, a second face ~~(22)~~ which is adapted to be fixed on said lower face ~~(31)~~ by a fixing mechanism ~~(4, 5),~~ and at least one primary channel ~~(28) which connects said first face (21) and said second face (22); and furthermore at least one connecting ring (8) which is arranged in said at least one secondary channel (38) and which establishes a connection with said~~ , wherein the at least one primary channel ~~(28) when~~connects said first face to said second face;

at least one ~~primary channel (28) is aligned with said~~ connecting ring, a respective ring of the at least one connecting ring being arranged in a respective secondary channel ~~(38), said friction assembly (1) further comprising~~ of said at least one secondary channel;

a manifold block ~~(50) which is~~ connected to a suction device and ~~which forms an~~ being integral ~~part of said brake head (3)~~ with the manifold block at said upper face ~~(32),~~ said ~~friction assembly (1) being characterized in that said~~manifold block ~~(50) has~~having a cavity ~~(55)~~ which is connected ~~by a circuit (51)~~ to the suction device and which comprises at least one hole ~~(58) which connects~~, the at least one hole connecting said cavity ~~(55) and~~to said upper face ~~(32),~~ and ~~which is aligned with said~~a respective hole of the at least one hole being aligned with a respective secondary channel ~~(38) and in which said~~of the at least one secondary channel, wherein a respective connecting ring ~~(8) is able~~of the at least one ring is configured to slide~~, and in that it comprises~~ in a respective hole of the at least one hole; and

a securing mechanism ~~(70)~~ for securing said at least one connecting ring ~~(8)~~ to said manifold block ~~(50)~~ when said at least one connecting ring ~~(8)~~ is arranged in said at least one hole ~~(58)~~ and in said at least one secondary channel ~~(38).~~.

2. Friction assembly ~~(1)~~ according to claim 1, wherein said at least one connecting ring ~~(8)~~ comprises~~:~~

a body ~~(81) and a flange (82) at~~having a first end ~~of said body (81), the distal~~ and a second end opposite the first end;

a flange arranged at the first end of said body ~~(81) carrying~~ ; and

tabs ~~(85) which extend~~arranged at the second end of said body; the tabs extending radially outwards in said cavity ~~(55), and~~ ,

wherein said securing mechanism ~~(70)~~ comprises said flange ~~(82),~~ said tabs ~~(85),~~ and ~~the~~an internal edge of said at least one hole ~~(58)~~ of said cavity ~~(55).~~.

3. Friction assembly ~~(1)~~ according to claim 1, wherein said at least one connecting ring ~~(8)~~ comprises~~:~~

a body ~~(81) and~~ having a first end and a second end opposite the first end;

a flange ~~(82)~~arranged at ~~a~~the first end of said body ~~(81),~~; and

tabs arranged at the ~~distal~~second end of said body ~~(81) carrying~~, the tabs ~~(85) which are~~being plastically deformed radially outwards in said cavity ~~(55), and~~ ,

wherein said securing mechanism ~~(70)~~ comprises said flange ~~(82),~~ said tabs ~~(85),~~ and ~~the~~an internal edge of said at least one hole ~~(58)~~ of said cavity ~~(55).~~.

4. Friction assembly ~~4. Friction assembly (1)~~ according to claim 1, wherein said at least one connecting ring ~~(8)~~ comprises~~:~~

a body ~~(81)~~having a first end and a second end opposite the first end;

a flange ~~(82)~~arranged at ~~a~~the first end of said body ~~(81), the distal end of said body (81) carrying~~ ; and

at least one protuberance ~~(86) which extends~~arranged at the second end of said body, the at least one protuberance extending radially outwards in said cavity ~~(55),~~, wherein said at least one hole ~~(58)~~ carries at least one groove ~~(581)~~ within which said at least one protuberance ~~(86)~~ is adapted to slide, wherein ~~the~~an internal edge of said at least one hole ~~(58)~~ of the cavity ~~(55)~~ comprises a housing ~~(586)~~ adapted to receive said protuberance ~~(86),~~ and wherein said securing mechanism ~~(70)~~ comprises said flange ~~(82),~~ said protuberance ~~(86),~~ and said housing ~~(586).~~.

5. Friction assembly ~~(1)~~ according to ~~any one of claims 1 to 4~~claim 1, further comprising a return mechanism ~~(90)~~ which is adapted to press said connecting ring ~~(8)~~ against said second face ~~(22).~~.

6. Friction assembly ~~(1)~~ according to ~~any one of claims 1 to 5~~claim 1, wherein said fixing mechanism ~~(4, 5)~~ comprises a receiving slide ~~(5)~~ which is formed on said lower face ~~(31),~~, and a dovetail section ~~(4)~~ which is formed on said second face ~~(22)~~ and which is configured to engage with said receiving slide ~~(5).~~.

7. Method for securing at least one connecting ring ~~(8)~~ mounted on a brake head ~~(3)~~ to a manifold block ~~(50)~~ connected to a suction device, said brake head ~~(3)~~ comprising a lower face ~~(31),~~ an upper face ~~(32),~~ and at least one secondary channel ~~(38) of~~having a central axis A, said block ~~(50)~~ forming an integral part of said brake head ~~(3)~~ at said upper face ~~(32),~~ the brake head ~~(3)~~ and said connecting ring ~~(8)~~ forming part of a friction assembly ~~(1)~~ for a braking system for railway rolling stock, said friction assembly ~~(1)~~ further comprising a plate ~~(2)~~ made of friction material comprising a first face ~~(21)~~ which is the friction face, a second face ~~(22)~~ which is adapted to be fixed to said lower face ~~(31)~~ by a fixing mechanism ~~(4, 5), and at least one primary channel (28) which connects said first face (21) and said second face (22), said at least one connecting ring (8) being arranged in said at least one secondary channel (38) and establishing a connection with said~~, and at least one primary channel, the at least one primary channel ~~(28) when~~connecting said first face and said second face, said at least one ~~primary channel (28) is aligned with~~connecting ring being arranged in said at least one secondary channel ~~(38), said method being characterized in that it comprises the following steps:~~.

~~(a) Said~~said method comprising the following steps:

providing said manifold block ~~(50) is provided~~ with a cavity ~~(55)~~ which is connected ~~by a circuit (51)~~ to the suction device, and with at least one hole ~~(58)~~ which connects said cavity ~~(55) and~~to said upper face ~~(32)~~ and which is aligned with said at least one secondary channel ~~(38)~~ and in which said at least one connecting ring ~~(8)~~ is adapted to slide;

~~(b) Said at least one connecting ring (8) is arranged in said at least one hole (58) and in said at least one secondary channel (38) by sliding it along axis A from said lower face (31);~~

~~(c) Said at least one connecting ring (8) is secured to said block (50) by means of a securing mechanism (70);~~

~~(d) Assembly of said plate (2) onto said brake head (3) is carried out until said plate (2) covers said at least one connecting ring (8).~~

~~8. Method according to claim 7, such that~~positioning said at least one connecting ring ~~(8) comprises a body (81) and a flange (82) at a first end of said body (81), the distal end of said body (81) carrying tabs (85) which extend radially outwards in their rest positions, and such that, in step (b), said tabs (85) approach each other elastically when said body (81) slides in said at least one hole (58)~~ in said at least one hole and in said at least one secondary channel ~~(38),~~by sliding the at least one connecting ring along the central axis A from said lower face;

securing said at least one connecting ring to said manifold block by means of a securing mechanism;

assembling said plate onto said brake head until said plate covers said at least one connecting ring.

8. Method according to claim 7, wherein said at least one connecting ring comprises:

a body having a first end and ~~such that,~~a second end opposite the first end;

a flange arranged at the first end of said body; and

tabs arranged at the second end of said body; the tabs extending radially outwards in their rest positions,

wherein, in the step ~~(c), said tabs (85)~~"positioning said at least one connecting ring", said tabs approach each other elastically when said body slides in said at least one hole and in said at least one secondary channel, and

wherein in step "securing said at least one connecting ring", said tabs return to their rest positions and are able to bear against ~~the~~an internal edge of said at least one hole ~~(58)~~ of said cavity ~~(55),~~ said securing mechanism ~~(70)~~ comprising said flange ~~(82),~~ said tabs ~~(85),~~ and said internal edge of the at least one hole ~~(58).~~.

9. Method according to claim 7, ~~such that said~~wherein the at least one connecting ring ~~(8)~~ comprises ~~:~~

a body ~~(81)~~having a first end and a second end opposite the first end;

a flange ~~(82)~~arranged at ~~a~~the first end of said body ~~(81),~~; and

tabs arranged at the ~~distal~~second end of said body ~~(81) carrying~~; the tabs ~~(85) which extend~~extending substantially as an extension of said body ~~(81)~~ in their rest positions, ~~such that~~

wherein, in the step ~~(b),~~"positioning said at least one connecting ring", said body ~~(81)~~ slides freely in said at least one hole ~~(58)~~ and in said at least one secondary channel ~~(38),~~ and ~~such that,~~

wherein in step ~~(c),~~"securing said at least one connecting ring", said tabs ~~(85)~~ are crushed against ~~the~~a bottom of said cavity such that said tabs are plastically deformed radially outwards and are able to bear against ~~the~~an internal edge of said at least one hole ~~(58)~~ of said cavity ~~(55),~~ said securing mechanism ~~(70)~~ comprising said flange ~~(82),~~ said tabs ~~(85),~~ and said internal edge of the at least one hole ~~(58).~~.

10. Method according to claim 7, ~~such that said~~wherein the at least one connecting ring ~~(8)~~ comprises ~~:~~

a body ~~(81) and~~ having a first end and a second end opposite the first end;

a flange ~~(82)~~arranged at ~~a~~the first end of said body ~~(81), the distal end of said body (81) carrying~~ ; and

at least one protuberance ~~(86)~~ which extends radially outwards, ~~and~~wherein said at least one hole ~~(58) carrying~~carries at least one groove ~~(581)~~ in which said at least one protuberance ~~(86)~~ is adapted to slide, and ~~the~~wherein an internal edge of said at least one hole ~~(58) comprising~~comprises a housing ~~(586)~~ adapted to receive said at least one protuberance ~~(86) such that,~~

wherein in the step ~~(b),~~"positioning said at least one connecting ring", said body ~~(81)~~ slides freely in said at least one hole ~~(58)~~ and in said at least one secondary channel ~~(38)~~ until the ~~distal~~second end of said body ~~(81)~~ emerges into said cavity ~~(55),~~ and ~~such that,~~

wherein in step ~~(c),~~"securing said at least one connecting ring ~~(8)~~", said connecting ring is pivoted about the ~~main~~central axis A until one of said at least one protuberance~~(s) (86)~~ is located facing said housing ~~(586),~~ then said ring is slid ~~(8)~~

in the opposite direction until one of said protuberance~~(s) (86)~~ is housed in said housing ~~(586)~~ and bears against ~~the~~a bottom of the housing ~~(586),~~, said securing mechanism ~~(70)~~ comprising said flange ~~(82),~~, said at least one protuberance ~~(86),~~ and said housing ~~(586).~~.

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