

(19)



(11)

EP 1 570 914 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
01.09.2010 Bulletin 2010/35

(51) Int Cl.:
B05C 5/02 (2006.01)

(21) Application number: **05101611.1**

(22) Date of filing: **02.03.2005**

(54) **Spreader particularly for depositing adhesives and/or polymeric materials in a liquid dispersion**

Verteiler insbesondere für Klebstoffe und/oder für in einer Flüssigkeit dispergierte polymerische Materialien

Distributeur en particulier d'adhésifs et/ou de matières polymériques en dispersion dans un liquide

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR**

(30) Priority: **02.03.2004 IT TV20040020**

(43) Date of publication of application:
07.09.2005 Bulletin 2005/36

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EP-A- 1 101 537

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Description

[0001] The present invention relates to a spreader particularly for depositing adhesives and/or polymeric materials in a liquid dispersion.

[0002] Currently, it is known to spread adhesives or polymeric materials in a liquid dispersion, known as coating, on backing media made of various materials, such as woven or non-woven fabrics, by using spreaders constituted by a head that is provided with a duct that is open at a working surface of said head and generally has a rectangular cross-section.

[0003] The head is formed at, or is detachably connected to, a footing that supports it, and it contains devices for injecting the coating into the duct; such coating is thus applied, at the working surface of the head, to a backing medium that is made to slide thereon in close contact in the form of a tape.

[0004] In order to allow the application of these adhesives or polymeric materials in liquid dispersion on backing media constituted by tapes of various widths, known throttling devices are applied to the spreading head and allow to adapt, to a certain extent, the breadth of the duct to the width of the tape that slides in contact therewith.

[0005] In view of the high travel speed of the backing medium with respect to the working surface of the head, the adoption of ducts that are even slightly wider than the tape in fact entails the waste of large amounts of coating, which in view of the low profit margins that can be achieved in this industrial sector is extremely penalizing from the economic standpoint, thus making it inevitable to apply said throttling devices.

[0006] A first known type of throttling device consists of one or more inserts, which can be arranged inside the duct in order to adapt its width to the width of the tape that slides in contact with it, partially obstructing its cross-section.

[0007] The main drawback of this first known type of throttling device is that positioning these inserts entails a long downtime of the spreader, worsened by the fact that due to the high travel speed of the backing medium the head reaches very high temperatures.

[0008] Moreover, these known types of insert only allow a stepwise adjustment of the width of the duct, forcing a considerable approximation in adapting it to the actual dimensions of the tape of backing medium.

[0009] A second throttling device is also known which comprises mechanical actuation systems for positioning inserts within the duct in order to vary its breadth without requiring external intervention on the spreader.

[0010] The main drawback of this second known type of throttling device is that these mechanical actuation systems, arranged laterally to the spreading head, have large dimensions.

[0011] Another drawback of this second throttling device is that particles of coating can often be deposited at the mechanical actuation systems and can undergo, due to the high temperatures, chemical and physical altera-

tions, such as carbonizations or polymerizations, and be subsequently released into the duct, contaminating the coating that flows therein, and can accumulate, obstructing part of the duct.

[0012] A third known type of throttling device consists of a series of valves, for example needle valves, each of which feeds a separate section of the duct and is separately adjustable, so as to adjust the breadth of said duct according to the number of separate sections that are fed.

[0013] The main drawback of this third known type of throttling device is that it entails a considerable increase in production costs due to the large number of valves required.

[0014] Another drawback is that even in this case the adjustment of the breadth of the duct is stepwise and therefore poses a considerable limitation to its adaptation to the actual dimensions of the tape of backing medium.

[0015] A fourth throttling device is also known which is constituted by a lamina that can be inserted transversely within the duct and can be fixed thereat in a chosen position, so as to determine its width with a good degree of precision.

[0016] The main drawback of this fourth known type of device is that in order to position said lamina it is necessary to disassemble most of the spreading head, and this operation is particularly labor-intensive and therefore forces long production stops, with a consequent decrease in the productivity of the spreader.

[0017] A known variation of this last fourth known type of throttling device allows to position the lamina by virtue of hydraulic actuation means, allowing to achieve the intended adjustment rapidly and with good precision.

[0018] The main drawback of said variation is that if the liquid contained in the hydraulic actuation circuit leaks due to damage to the gaskets as a consequence for example of the high operating temperatures, said liquid can spill onto the tape of backing medium or mix with the stream of coating, causing in both cases a deterioration of the final product that is particularly damaging, since its effects can become apparent even after a considerable period of use.

[0019] Another drawback of this known type of device is that the hydraulic actuation means are bulky and expansive to install and operate.

[0020] Another drawback of known types of spreader is that if depositions of different coatings are alternated on the same apparatus, said coatings can become contaminated due to the presence, inside the duct of the head, of particles that have accumulated during previous work.

[0021] EP-A-1 101 537 discloses a spreader for depositing adhesives and/or polymeric materials in liquid dispersion, having a combination of elements as set forth in the precharacterizing portion of the appended claim 1.

[0022] The aim of the present invention is to solve the above-mentioned problems, eliminating the drawbacks of the cited background art, by providing a spreader for depositing adhesives and/or polymeric materials in a liq-

uid dispersion on a tape of backing medium, which is capable of ensuring its easy, quick and effective optimization according to the type of coating that is deposited and according to the chosen dimensions of the backing medium.

[0023] Within this aim, an object of the present invention is to provide a device that allows to ensure stable and reliable fixing of the head to the footing of the spreader.

[0024] Another object is to provide a spreader that is compact and highly reliable in operation and has low operating costs.

[0025] Another object of the invention is to allow its operation and optimization without the presence of specialized personnel, thus reducing labor costs.

[0026] Another object is to provide a spreader that is structurally simple and has low manufacturing costs.

[0027] This aim and these and other objects that will become better apparent hereinafter are achieved by a spreader particularly for depositing adhesives and/or polymeric materials in a liquid dispersion, comprising a head that is detachably associable with a footing, characterized in that it comprises electromechanical means for detachably locking said head to said footing.

[0028] Further characteristics and advantages of the invention will become better apparent from the following detailed description of a particular but not exclusive embodiment thereof, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a partially sectional side view of a spreader according to the invention;

Figure 2 is a sectional view, taken along the line II-II of Figure 1, of a spreader;

Figure 3 is a partially sectional side view of a second embodiment of the spreader according to the invention;

Figure 4 is a sectional view, taken along the line IV-IV of Figure 3, of a spreader;

Figure 5 is a side view of a third embodiment of the spreader according to the invention;

Figure 6 is a sectional view, taken along the line VI-VI of Figure 5, of the spreader;

Figure 7 is a partially sectional side view of a variation of the spreader according to the invention;

Figure 8 is a sectional view, taken along the line VIII-VIII of Figure 7, of a variation of the spreader.

[0029] In the embodiments that follow, individual characteristics, given in relation to specific examples, may actually be interchanged with other different characteristics that exist in other embodiments.

[0030] Moreover, it is noted that anything found to be already known during the patenting process is understood not to be claimed and to be the subject of a disclaimer.

[0031] With reference to the figures, and considering their chosen orientation merely for page layout purposes,

the reference numeral 1 designates a spreader, which is composed of a footing 2 that is shaped approximately like a parallelepiped and is provided with a first seat 3, which is arranged horizontally along part or all of the width of the footing 2 and is open on at least one front face 2a of the footing.

[0032] Inside the footing 2, proximate to a lower end face 4 of the first seat 3, there are electromechanical means for locking a spreading head 5, which can be accommodated partially within the first seat 3.

[0033] Such electromechanical means are constituted, in a first embodiment of the invention, by at least one first magnet 6, which is preferably operated electrically and is provided for example by means of a coil of electrically conducting material arranged substantially horizontally along all or part of the width of the footing 2.

[0034] The at least one first magnet 6, moreover, can be positioned proximate to the end face 4 of the first seat 3, which is termed lower end face for the sake of convenience in description.

[0035] The at least one first magnet 6 is powered by an electric power source, such as the electrical mains, while the intensity of the current that flows through it is regulated by means of an electronic control and adjustment device, which is interposed between the at least one first magnet and the electrical mains.

[0036] The spreader further has means for shielding any sensors provided inside it, for example for measuring the temperature of various components thereof or the travel speed of the tape of backing medium, from the magnetic fields generated by the electromagnetic locking means particularly during the transitions for their activation and deactivation.

[0037] Such shielding means consist, for example, of an electronic circuit that is capable of deactivating and reactivating the sensors automatically during the transitions of the operation of the electromagnetic locking means.

[0038] The head 5 is substantially shaped like a parallelepiped and mates, with at least one portion, with the lower end face 4 of the first seat 3 and runs horizontally along all or part of said first seat.

[0039] Conveniently, a part of the head 5 can match the shape of the first seat 3 and be slightly smaller than said seat in order to allow its insertion therein.

[0040] The head 5 further has, at the opening of the first seat 3, a working surface 7 that protrudes externally from the front face 2a of the footing 2, in contact with which the tape of backing medium 8 can slide.

[0041] The head 5 is at least partially made of magnetic material, so as to be sensitive to the action of the magnetic field generated by the electromagnetic locking means provided inside the footing 2.

[0042] A horizontal duct 9 is further provided within the head 5, is open at the working surface 7 and runs along all or part of the width of the head 5; known pumping means, comprised within the spreader, inject into said duct the coating that must be deposited on the tape of

backing medium 8 during operation.

[0043] Advantageously, the width of the duct 9 can match with very close approximation the width of said tape of backing medium 8 and can be optionally slightly larger, in order to ensure a minimum safety margin regarding the deposition of the coating on the entire surface of the backing medium.

[0044] A second embodiment of the spreader 101 according to the invention provides for the presence, inside the footing 102, of one or more second magnets 110, which are preferably driven electrically and are arranged approximately parallel to the tape of backing medium 108 and side by side; said one or more second magnets are advantageously mutually equidistant, and each one has a first upper end 111 arranged proximate to the lower end face 104 of the first seat 103.

[0045] The one or more second magnets 110 are therefore mutually spaced by a chosen extent, which is constant or variable along the width of the footing 102, so as to be distributed along all or part of its width, uniformly or concentrated in chosen regions.

[0046] A third embodiment of the spreader 201, according to the invention, comprises at least one third magnet 211, which is formally also termed lower magnet, and at least one fourth lower magnet 212, both of which are preferably of the electrically-driven type; such magnets are respectively coupled to the mutually opposite walls, termed side walls by convention, of the footing 202, in a region that is adjacent to the head 205 and lies above it, and are preferably arranged approximately parallel to the tape of backing medium 208.

[0047] There is also a supporting element 214, which is for example approximately as wide as the footing 202 and supports, at its lateral ends, respectively at least one fifth magnet 215, termed upper magnet, and at least one fourth magnet 216, termed upper magnet, both of which are preferably of the electrically-driven type.

[0048] The at least one fifth magnet 215 and at least one sixth magnet 216 are preferably arranged approximately parallel to the tape of backing medium 208 and are respectively aligned with the at least one third magnet 212 and said at least one fourth magnet 213 and are spaced from them.

[0049] Accordingly, a first gap 217 between said at least one third magnet 212 and said at least one fifth magnet 215 and a second gap 218 between said at least one fourth magnet 213 and at least one sixth magnet 216 are provided.

[0050] The first and second gaps accommodate the opposite lateral ends 219 of a supporting bar 220, which is thinner than the height of the first and second gaps, so as to be able to move vertically within such gaps, and is made, at least at its opposite lateral ends 219, of a magnetic material.

[0051] Bearing in mind again that the arrangements of the components are correlated to the chosen arrangement of the invention in the accompanying figures, it is noted that one or more for example cylindrical or paral-

lelepedal pins 221 are associated in a lower region with the supporting bar 220, are vertically parallel to each other, and can slide within one or more complementarily shaped second vertical seats 222 provided inside the footing 202 at the head 205 and above it.

[0052] The one or more second seats 222 are open, at one of their lower ends 223, at the upper wall 224 of the first seat 203, and each one can optionally accommodate, proximate to the lower end 223, a shock-absorbing element 225 that rests directly on the upper end face 226 of the head 205.

[0053] Conveniently, the one or more pins 221 are approximately as long as, or slightly longer than, the upper region of the second seats 222 that is not occupied by the shock-absorbing elements, so that when the supporting bar 220 adheres to the third and fourth lower magnets 212 and 213, the pins compress in an upper region the shock-absorbing elements against the head 205, locking it in its position.

[0054] The supporting bar can thus pass from a first position, also termed locking position, in which it rests on the at least one third lower magnet and on the at least one fourth lower magnet, to a second position, also termed open position, in which it adheres in a lower region to the at least one fifth and sixth upper magnets.

[0055] A variation of the spreader 301 according to the invention, which can be applied to each one of its embodiments described above, comprises two or more pins 326, which are inserted vertically within the head 305 and are accommodated, at one of their lower ends 327, in complementarily shaped vertical seats 328, which are formed inside the footing 302 and are open in an upper region at the lower end face 304 of the first seat 303.

[0056] Such two or more pins 326 are arranged side by side and conveniently at a certain mutual distance, so as to ensure a coupling against any unwanted rotations of the head 305 with respect to the footing 302, particularly if the first seat 303 is not shaped complementarily to the head 305.

[0057] The operation of the spreader according to the invention provides for the insertion, with the first seat, of a spreading head provided with a duct that is wide enough for the dimensions of the tape of backing medium that is to slide in contact with its working surface.

[0058] Once the head has been positioned, it is possible to supply power to the one or more magnets by means of the electronic control and adjustment device, so that they apply to the head an attractive force that is capable of coupling it rigidly to the footing.

[0059] During the activation and deactivation of the magnets, the shielding means automatically isolate the sensors that are provided inside the spreader, since the signals emitted by said sensors can be altered by the magnetic fields generated during these transitions: said sensors are then reactivated automatically once they have reached stable conditions.

[0060] If the width of the tape of backing medium processed by the spreader changes, it is possible to replace

rapidly the spreading head with one that has a duct of adequate width by simply deactivating the magnets that couple it to the footing.

[0061] This operation is extremely simple and quick to perform, since it does not entail disassembling any component and therefore does not require the intervention of specialized labor, requires very short apparatus downtimes, and allows to reduce operating and labor costs.

[0062] Further, this replacement can occur also if different coatings are alternately deposited on the same spreader, eliminating the danger of contamination arising from particles of coating that stagnate within the head and are released uncontrollably.

[0063] The absence of liquids that are not part of the coating eliminates the possibility of contaminating said coating; moreover, the safety and reliability of the electromagnetic locking means forces minimal maintenance, ensuring a high productivity of the spreader.

[0064] Since the magnets are accommodated inside the footing in the first and second embodiments presented here, the spreader according to the invention is compact and therefore can be inserted easily within any apparatus.

[0065] Operation in the case of the third embodiment described above entails that if the head must be coupled to the footing, the lower magnets are activated, forcing, by means of the supporting bar, the pins supported by said bar against the upper wall of the spreading head, which is thus pushed toward the lower end face of the first seat.

[0066] In order to replace the spreading head, it is possible to actuate the upper magnets, which by lifting the supporting bar free said head from the action of the pins, allowing its easy extraction and the insertion of a new head that is suitable for the process to be performed on the spreader.

[0067] Further, the third embodiment can be provided easily even starting from known spreaders, allowing easy updating of existing apparatuses.

[0068] It has thus been found that the invention has achieved the intended aim and objects, a spreader for depositing adhesives or polymeric materials in a liquid dispersion on a tape of backing medium having been provided which is capable of ensuring its easy, quick and effective optimization according to the type of coating that is deposited and according to the dimensions of the backing medium.

[0069] Another object achieved by the invention is to ensure stable and safe fixing of the head to the footing of the spreader.

[0070] Another object that is achieved is to provide a spreader that is compact and highly reliable in operation and has low operating costs.

[0071] Another object achieved by the invention is to allow its operation and optimization without the presence of specialized personnel, thus reducing labor costs.

[0072] The materials used, as well as the dimensions that constitute the individual components of the invention,

may of course be more pertinent according to specific requirements.

[0073] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A spreader (1,101,201,301) particularly for depositing adhesives and/or polymeric materials in a liquid dispersion, comprising a head (5,205,305) that is detachably associable with a footing (2,102,202,302), **characterized in that** it comprises electromechanical means for detachably locking said head (5,205,305) to said footing (2,102,202,302).
2. The spreader (1,101,201,301) according to claim 1, **characterized in that** said footing (2,102,202,302) is approximately shaped like a parallelepiped and has a first seat (3,103,203,303), which is arranged horizontally along part or all of the width of said footing (2,102,202,302) and is open onto at least one front face thereof, for partially accommodating said first head (5,205,305).
3. The spreader (1,101,201,301) according to claims 1 and 2, **characterized in that** said electromechanical means for locking said head (5,205,305) are inserted within said footing (2,102,202,302) proximate to a lower end face (4,104,304) of said first seat (3,103,203,303).
4. The spreader (1,101,201,301) according to claims 1 and 3, **characterized in that** said head (5,205,305) is substantially shaped like a parallelepiped and mates with at least one portion said lower end face (4,104,304) of said first seat (3,103,203,303) and runs horizontally along all or part of said first seat (3,103,203,303).
5. The spreader (1,101,201,301) according to claims 1 and 4, **characterized in that** part of said head (5,205,305) matches the shape of said first seat (3,103,203,303) and is slightly smaller than said first seat (3,103,203,303) in order to allow its insertion therein.
6. The spreader (1,101,201,301) according to claims 1 and 5, **characterized in that** said head (5,205,305) has, at the opening of said first seat (3,103,203,303), a working surface (7) that protrudes externally from said front face of said footing (2,102,202,302) and in contact with which a tape of backing medium

(8,108,208) can slide.

7. The spreader (1,101,201,301) according to claims 1 and 6, **characterized in that** said head (5,205,305) is at least partially made of magnetic material and is sensitive to the action of the magnetic field that can be generated by said electromagnetic locking means. 5
8. The spreader (1,101,201,301) according to claims 1 and 7, **characterized in that** a horizontal duct (9) is formed inside said head (5,205,305), is open at said working surface (7), and runs along part or all of the width of said head (5,205,305), for the injection of adhesives and/or polymeric materials in a liquid dispersion. 10
9. The spreader (1,101,201,301) according to claims 1 and 8, **characterized in that** the width of said duct (9) is approximately equal to the width of said layer of backing medium, or larger than said width by a chosen minimum value. 15
10. The spreader (1,101,201,301) according to claims 1 and 9, **characterized in that** it comprises means for shielding any sensors that are present inside said spreader (1,101,201,301) from the magnetic fields that can be generated by said electromagnetic locking means, particularly during the transitions for the activation and deactivation of said means. 20
11. The spreader (1,101,201,301) according to claims 1 and 10, **characterized in that** said shielding means consist of an electronic circuit for automatic deactivation and reactivation of said sensors during the transitions of the operation of said electromagnetic locking means. 25
12. The spreader (1) according to claims 1 and 11, **characterized in that** said electromagnetic means are constituted by at least one first magnet (6), which is provided by means of a coil that is made of electrically conducting material, is electrically driven, runs substantially horizontally along all or part of the width of said footing (2), and is arranged inside said footing (2), proximate to said lower end face (4) of said first seat (3). 30
13. The spreader (1) according to claims 1 and 12, **characterized in that** said at least one first magnet (6) is powered by an electric power source, the intensity of the current that flows therein being adjustable by means of an electronic control and adjustment device that is interposed between said at least one first magnet (6) and said electrical mains. 35
14. The spreader (101) according to claims 1 and 11, **characterized in that** said electromagnetic locking means are constituted by one or more second magnets (110), which are arranged inside said footing (102), are approximately parallel to said tape of backing medium (108) and are arranged mutually side by side. 40
15. The spreader (101) according to claims 1 and 14, **characterized in that** said one or more second magnets (110) each have a first upper end (111) arranged proximate to said lower end face (104) of said first seat (103). 45
16. The spreader (101) according to claims 1 and 15, **characterized in that** said one or more second magnets (110) are mutually spaced by a chosen pitch, which is constant or variable along the width of said footing (102). 50
17. The spreader (201) according to claims 1 and 11, **characterized in that** said electromagnetic locking means comprise at least one third magnet (211) and at least one fourth magnet (212), which are rigidly coupled respectively to the mutually opposite walls of said footing (202), in a region that is adjacent to said head (205) and lies above it, and are arranged approximately parallel to said tape of backing medium (208). 55
18. The spreader (201) according to claims 1 and 17, **characterized in that** it comprises a supporting element (214) that is approximately as wide as said footing (202) and supports, at its lateral ends, respectively at least one fifth magnet (215) and at least one sixth magnet (216), both of which are of the electrically-driven type.
19. The spreader (201) according to claims 1 and 18, **characterized in that** said at least one fifth magnet (215) and said at least one sixth magnet (216) are arranged approximately parallel to said tape of backing medium (208) and are respectively aligned with said at least one third magnet (211) and at least one fourth magnet (212) and are spaced from them, so as to form a first gap (217) between said at least one third magnet (211) and said at least one fifth magnet (215) and a second gap (218) between said at least one fourth magnet (212) and said at least one sixth magnet (216).
20. The spreader (201) according to claims 1 and 19, **characterized in that** the opposite lateral ends (219) of a supporting bar (220) are accommodated within said first and second gaps (217,218), said supporting bar (220) being thinner than the height of said first and second gaps (217,218), being able to move vertically within them, and being made, at least at said opposite lateral ends (219) thereof, of a magnetic material.

21. The spreader (201) according to claims 1 and 20, **characterized in that** one or more pins (221) are associated with said supporting bar (220), below it, said pins (221) being preferably cylindrical or parallelepipedal and being arranged vertically parallel to each other and so that they can slide within one or more complementarily shaped second vertical seats (222) formed inside said footing (202) at said head (205) and above it.
22. The spreader (210) according to claims 1 and 21, **characterized in that** said one or more second seats (222) are open, at one of their lower ends (223), at an upper wall (224) of said first seat (203), and each one accommodates, proximate to said lower end (223), a shock-absorbing element (225) that rests directly on an upper end face (226) of said head (205).
23. The spreader (201) according to claims 1 and 22, **characterized in that** said one or more pins (221) have a length that is at least equal to the length of the upper region of said second seats (222) that is not occupied by said shock-absorbing elements (225).
24. The spreader (201) according to claims 1 and 23, **characterized in that** said supporting bar (220) can pass from a first locking position, in which it rests on said at least one third magnet (211) and on said at least one fourth magnet (212), to a second open position, in which it adheres in a lower region to said at least one fifth magnet (215) and to said at least one sixth magnet (216).
25. The spreader (301) according to one or more of the preceding claims, **characterized in that** it comprises two or more pins (326), which are inserted vertically within said head (305) and are accommodated, at a lower end (327), in complementarily shaped vertical seats (328), which are formed inside said footing (302) and are open in an upper region at said lower end face (304) of said first seat (303).
26. The spreader (301) according to claims 1 and 25, **characterized in that** said two or more pins (326) are arranged side by side and conveniently arranged at a certain mutual distance, so as to constitute a retaining element against any unwanted rotations of said head (305) with respect to said footing (302).

Patentansprüche

1. Verteiler (1, 101, 201, 301), insbesondere zum Auftragen von Klebstoffen und/oder polymeren Werkstoffen in einer flüssigen Dispersion, mit einem Kopf (5, 205, 305), der mit einem Fuß (2, 102, 202, 302)

lösbar verbindbar ist, **dadurch gekennzeichnet, dass** er elektromechanische Mittel zum lösbaren Verriegeln des Kopfes (5, 205, 305) mit dem Fuß (2, 102, 202, 302) aufweist.

2. Verteiler (1, 101, 201, 301) nach Anspruch 1, **dadurch gekennzeichnet, dass** der Fuß (2, 102, 202, 302) annähernd wie ein Parallelepiped geformt ist und einen ersten Sitz (3, 103, 203, 303) hat, der horizontal entlang einem Teil der oder der gesamten Breite des Fußes (2, 102, 202, 302) angeordnet ist und auf mindestens eine Vorderfläche davon hin offen ist, um den ersten Kopf (5, 205, 303) teilweise unterzubringen.
3. Verteiler (1, 101, 201, 301) nach den Ansprüchen 1 und 2, **dadurch gekennzeichnet, dass** die elektromechanischen Mittel zum Verriegeln des Kopfes (5, 205, 305) in den Fuß (2, 102, 202, 302) in der Nähe einer unteren Endfläche (4, 104, 304) des ersten Sitzes (3, 103, 203, 303) eingesetzt sind.
4. Verteiler (1, 101, 201, 301) nach den Ansprüchen 1 und 3, **dadurch gekennzeichnet, dass** der Kopf (5, 205, 305) im Wesentlichen wie ein Parallelepiped geformt ist und mit mindestens einem Teil der unteren Endfläche (4, 104, 304) des ersten Sitzes (3, 103, 203, 303) zusammenpasst und horizontal entlang des gesamten oder einem Teil des ersten Sitzes (3, 103, 203, 303) verläuft.
5. Verteiler (1, 101, 201, 301) nach den Ansprüchen 1 und 4, **dadurch gekennzeichnet, dass** der Kopf (5, 205, 305) mit der Form des ersten Sitzes (3, 103, 203, 303) zusammenpasst und etwas kleiner als der erste Sitz (3, 103, 203, 303) ist, um sein Einsetzen dort hinein zu gestatten.
6. Verteiler (1, 101, 201, 301) nach den Ansprüchen 1 und 5, **dadurch gekennzeichnet, dass** der Kopf (5, 205, 305) an der Öffnung des ersten Sitzes (3, 103, 203, 303) eine Arbeitsfläche (7) hat, die nach außen von der Vorderfläche des Fußes (2, 102, 202, 302) vorsteht, und wobei ein Trägermittelband (8, 108, 208) in Kontakt mit ihr gleiten kann.
7. Verteiler (1, 101, 201, 301) nach den Ansprüchen 1 und 6, **dadurch gekennzeichnet, dass** der Kopf (5, 205, 305) mindestens teilweise aus magnetischem Material hergestellt ist und auf die Wirkung des magnetischen Feldes, das mit den elektromagnetischen Verriegelungsmitteln erzeugt werden kann, empfindlich reagiert.

8. Verteiler (1, 101, 201, 301) nach den Ansprüchen 1 und 7, **dadurch gekennzeichnet, dass** für die Einspritzung von Klebstoffen und/oder polymeren Werkstoffen in einer flüssigen Dispersion ein hori-

zontaler Kanal (9) in dem Kopf (5, 205, 305) gebildet ist, an der Arbeitsfläche (7) offen ist und entlang eines Teiles der oder der gesamten Breite des Kopfes (5, 205, 305) verläuft.

9. Verteiler (1, 101, 201, 301) nach den Ansprüchen 1 und 8, **dadurch gekennzeichnet, dass** die Breite des Kanals (9) annähernd gleich der Breite der Trägermittellage oder größer als die Breite um einen gewählten Minimalwert ist.
10. Verteiler (1, 101, 201, 301) nach den Ansprüchen 1 und 9, **dadurch gekennzeichnet, dass** er Mittel zum Abschirmen von irgendwelchen Sensoren, die in dem Verteiler (1, 101, 201, 301) vorhanden sind, gegen die magnetischen Felder, die von den elektromagnetischen Verriegelungsmitteln, insbesondere während der Übergänge für die Aktivierung und Deaktivierung dieser Mittel erzeugt werden können, aufweist.
11. Verteiler (1, 101, 201, 301) nach den Ansprüchen 1 und 10, **dadurch gekennzeichnet, dass** die Abschirmungsmittel aus einer elektronischen Schaltung für die automatische Deaktivierung und Reaktivierung der Sensoren während der Übergänge des Betriebs der elektromagnetischen Verriegelungsmittel bestehen.
12. Verteiler (1) nach den Ansprüchen 1 und 11, **dadurch gekennzeichnet, dass** die elektromagnetischen Mittel aus mindestens einem ersten Magnet (6) gebildet sind, der mittels einer Spule bereitgestellt wird, die aus einem elektrisch leitenden Werkstoff hergestellt ist, elektrisch betrieben wird, im Wesentlichen horizontal entlang der gesamten oder einen Teil der Breite des Fußes (2) und innerhalb besagten Fußes (2) angeordnet ist, in der Nähe der unteren Endfläche (4) des ersten Sitzes (3) angeordnet ist.
13. Verteiler (1) nach den Ansprüchen 1 und 12, **dadurch gekennzeichnet, dass** der mindestens eine erste Magnet (6) mit Strom von einer elektrischen Stromquelle versorgt wird, wobei die Intensität des darin fließenden Stromes mittels einer elektronischen Steuer- und Einstellvorrichtung einstellbar ist, die zwischen dem mindestens einen ersten Magneten (6) und der elektrischen Hauptleitung zwischen geschaltet ist.
14. Verteiler (101) nach den Ansprüchen 1 und 11, **dadurch gekennzeichnet, dass** die elektromagnetischen Verriegelungsmittel von einem oder mehreren zweiten Magneten (110) gebildet werden, die in dem Fuß (102) angeordnet sind, annähernd parallel zu dem Trägermittelband (108) sind und Seite-an-Seite zueinander angeordnet sind.

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15. Verteiler (101) nach den Ansprüchen 1 und 14, **dadurch gekennzeichnet, dass** der eine oder die mehreren zweiten Magnete (110) jeweils ein erstes oberes Ende (111) haben, das in der Nähe der unteren Endfläche (104) des ersten Sitzes (103) angeordnet ist.
16. Verteiler (101) nach den Ansprüchen 1 und 15, **dadurch gekennzeichnet, dass** der eine oder die mehreren zweiten Magnete (110) um eine gewählte Teilung voneinander beabstandet sind, die entlang der Breite des Fußes (102) konstant oder variabel ist.
17. Verteiler (201) nach den Ansprüchen 1 und 11, **dadurch gekennzeichnet, dass** die elektromagnetischen Verriegelungsmittel mindestens einen dritten Magneten (211) und mindestens einen vierten Magneten (212) umfassen, die jeweils mit den zueinander entgegengesetzten Wänden des Fußes (202) in einem Bereich starr verbunden sind, der zu dem Kopf (205) benachbart ist und über ihm liegt, und annähernd parallel zu dem Band des Trägermittels (208) angeordnet sind.
18. Verteiler (201) nach den Ansprüchen 1 und 17, **dadurch gekennzeichnet, dass** er ein Stützelement (214) aufweist, das annähernd so breit wie der Fuß (202) ist und an seinen seitlichen Enden jeweils mindestens einen fünften Magneten (215) und mindestens einen sechsten Magneten (216) trägt, die beide zu der elektrisch betriebenen Art gehören.
19. Verteiler (201) nach den Ansprüchen 1 und 18, **dadurch gekennzeichnet, dass** der mindestens eine fünfte Magnet (215) und der mindestens eine sechste Magnet (216) annähernd parallel zu dem Trägermittelband (208) angeordnet sind und zu dem mindestens einen dritten Magneten (211) bzw. mindestens einem vierten Magneten (212) ausgerichtet und von ihnen beabstandet sind, um einen ersten Spalt (217) zwischen dem mindestens einen dritten Magneten (211) und dem mindestens einen fünften Magneten (215) zu bilden und einen zweiten Spalt (218) zwischen dem mindestens einen vierten Magneten (212) und dem mindestens einen sechsten Magneten (216) zu bilden.
20. Verteiler (201) nach den Ansprüchen 1 und 19, **dadurch gekennzeichnet, dass** die entgegengesetzten seitlichen Enden (219) einer Tragstange (220) in dem ersten und zweiten Spalt (217, 218) untergebracht sind, wobei die Tragstange (220) dünner als die Höhe des ersten und zweiten Spaltes (217, 218) ist, sich in ihnen vertikal bewegen kann und mindestens an ihren entgegengesetzten seitlichen Enden (219) aus einem magnetischen Werkstoff hergestellt ist.

21. Verteiler (201) nach den Ansprüchen 1 und 20, **dadurch gekennzeichnet, dass** ein oder mehrere Stifte (221) mit der Tragstange (220) unter ihr verbunden sind, wobei die Stifte (221) vorzugsweise zylindrisch oder parallelepipedförmig sind und vertikal parallel zueinander angeordnet sind und so angeordnet sind, dass sie in einem oder mehreren komplementär geformten zweiten vertikalen Sitzen (222) gleiten können, die in dem Fuß (202) an dem Kopf (205) und über ihm gebildet sind.
22. Verteiler (210) nach den Ansprüchen 1 und 21, **dadurch gekennzeichnet, dass** der eine oder mehrere zweite Sitze (222) in einem ihrer unteren Enden (223) an einer oberen Wand (224) des ersten Sitzes (203) offen sind und jeder ein stoßdämpfendes Element (225), das sich direkt auf einer oberen Endfläche (226) des Kopfes (205) abstützt, in der Nähe des unteren Endes (223) aufnimmt.
23. Verteiler (201) nach den Ansprüchen 1 und 22, **dadurch gekennzeichnet, dass** der eine oder mehrere Stifte (221) eine Länge haben, die mindestens gleich der Länge des oberen Bereichs der zweiten Sitze (222) ist, der nicht von den stoßdämpfenden Elementen (225) besetzt ist.
24. Verteiler (201) nach den Ansprüchen 1 und 23, **dadurch gekennzeichnet, dass** die Tragstange (220) von einer ersten Verriegelungsstellung, in der sie sich auf dem mindestens einen dritten Magneten (211) und auf dem mindestens einen vierten Magneten (212) abstützt, zu einer zweiten Offenstellung übergehen kann, in der sie in einem unteren Bereich an dem mindestens einen fünften Magneten (215) und dem mindestens einen sechsten Magneten (216) anhaftet.
25. Verteiler (301) nach einem oder mehreren der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** er zwei oder mehr Stifte (326) aufweist, die vertikal in den Kopf (305) eingesetzt sind und an einem unteren Ende (327) in komplementär geformten vertikalen Sitzen (328) aufgenommen sind, die in dem Fuß (302) gebildet sind und in einem oberen Bereich an der unteren Endfläche (304) des ersten Sitzes (303) offen sind.
26. Verteiler (301) nach den Ansprüchen 1 und 25, **dadurch gekennzeichnet, dass** die zwei oder mehreren Stifte (326) Seite-an-Seite angeordnet sind und zweckmäßigerweise in einem bestimmten gegenseitigen Abstand angeordnet sind, um ein Rückhalteelement gegen irgendwelche unerwünschten Drehungen des Kopfes (305) bezüglich des Fußes (203) zu bilden.

Revendications

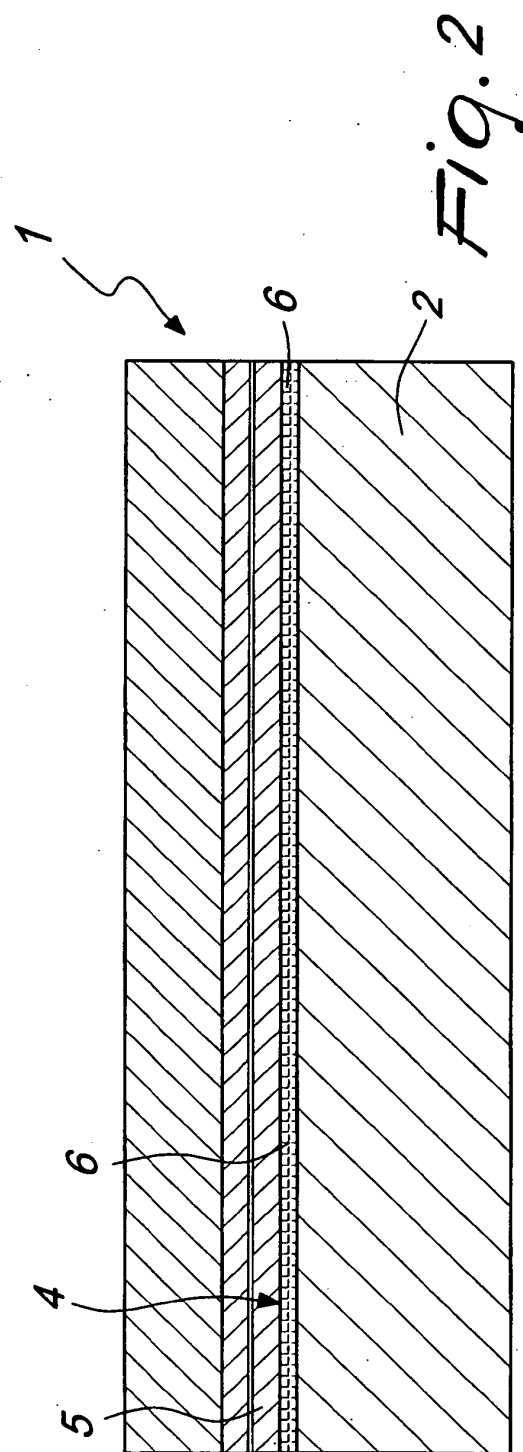
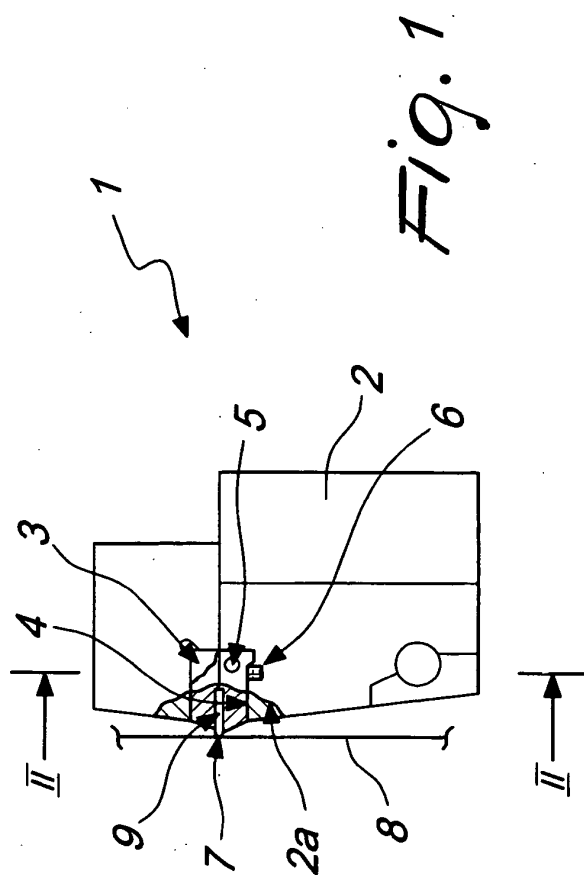
1. Distributeur (1, 101, 201, 301) en particulier pour déposer des adhésifs et/ou des matériaux polymères dans une dispersion liquide, comprenant une tête (5, 205, 305) qui peut être associée de manière détachable à un pied (2, 102, 202, 302) **caractérisé en ce qu'il** comprend des moyens électromécaniques pour bloquer de manière détachable ladite tête (5, 205, 305) sur ledit pied (2, 102, 202, 302).
2. Distributeur (1, 101, 201, 301) selon la revendication 1, **caractérisé en ce que** ledit pied (2, 102, 202, 302) est approximativement formé comme un parallélépipède et a un premier siège (3, 103, 203, 303) qui est agencé horizontalement le long d'une partie ou de toute la largeur dudit pied (2, 102, 202, 302) et est ouvert sur au moins sa face avant, pour loger partiellement ladite première tête (5, 205, 305).
3. Distributeur (1, 101, 201, 301) selon les revendications 1 et 2, **caractérisé en ce que** lesdits moyens électromécaniques pour bloquer ladite tête (5, 205, 305) sont insérés à l'intérieur dudit pied (2, 102, 202, 302) à proximité d'une face d'extrémité inférieure (4, 104, 304) dudit premier siège (3, 103, 203, 303).
4. Distributeur (1, 101, 201, 301) selon les revendications 1 et 3, **caractérisé en ce que** ladite tête (5, 205, 305) est sensiblement formée comme un parallélépipède et se couple avec au moins une partie de ladite face d'extrémité inférieure (4, 104, 304) dudit premier siège (3, 103, 203, 303) et s'étend horizontalement le long de la totalité ou d'une partie dudit premier siège (3, 103, 203, 303).
5. Distributeur (1, 101, 201, 301) selon les revendications 1 et 4, **caractérisé en ce que** la partie de ladite tête (5, 205, 305) correspond à la forme dudit premier siège (3, 103, 203, 303) et est légèrement plus petite dudit premier siège (3, 103, 203, 303) afin de permettre son insertion.
6. Distributeur (1, 101, 201, 301) selon les revendications 1 et 5, **caractérisé en ce que** ladite tête (5, 205, 305) a, au niveau de l'ouverture dudit premier siège (3, 103, 203, 303), une surface de travail (7) qui fait saillie vers l'extérieur de ladite face avant dudit pied (2, 102, 202, 302) et en contact avec laquelle, une bande de moyen de renfort (8, 108, 208) peut coulisser.
7. Distributeur (1, 101, 201, 301) selon les revendications 1 et 6, **caractérisé en ce que** ladite tête (5, 205, 305) est au moins partiellement réalisée avec un matériau magnétique et est sensible à l'action du champ magnétique qui peut être généré par lesdits moyens de blocage électromagnétiques.

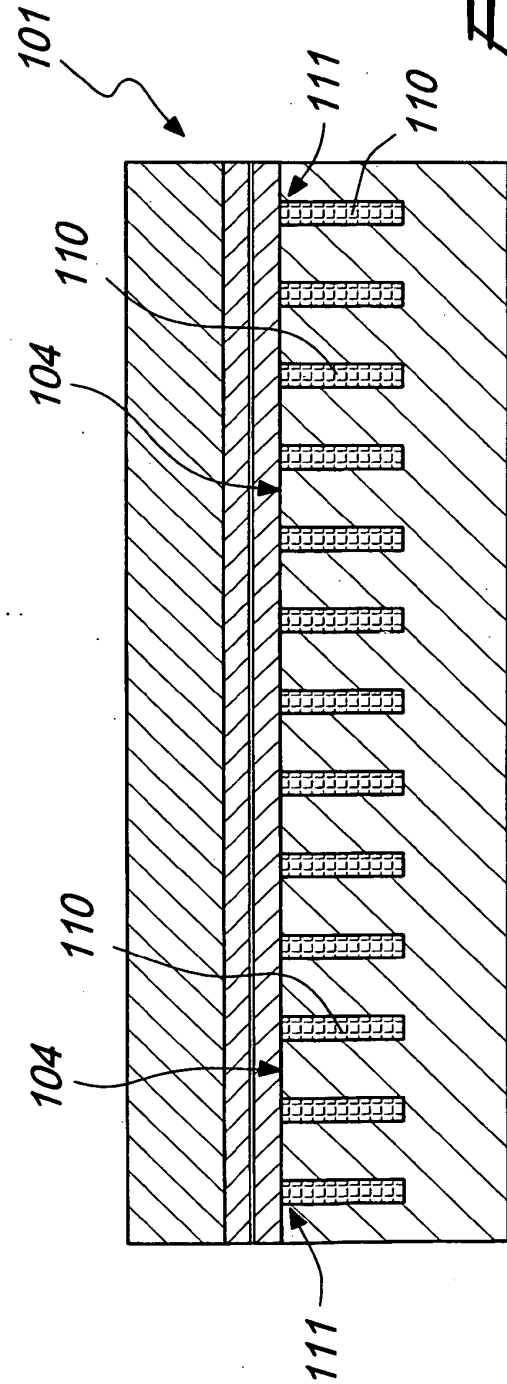
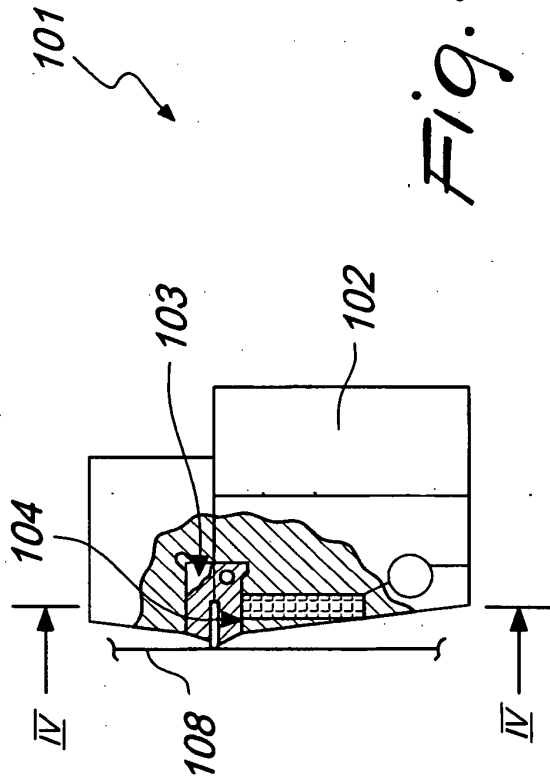
8. Distributeur (1, 101, 201, 301) selon les revendications 1 et 7, **caractérisé en ce qu'un** conduit horizontal (9) est formé à l'intérieur de ladite tête (5, 205, 305), est ouvert au niveau de ladite surface de travail (7), et s'étend le long d'une partie ou de toute la largeur de ladite tête (5, 205, 305) pour l'injection des adhésifs et/ou des matériaux polymères dans une dispersion liquide.
9. Distributeur (1, 101, 201, 301) selon les revendications 1 et 8, **caractérisé en ce que** la largeur dudit conduit (9) est approximativement égale à la largeur de ladite couche de support de renfort ou plus grande que ladite largeur selon une valeur minimum choisie.
10. Distributeur (1, 101, 201, 301) selon les revendications 1 et 9, **caractérisé en ce qu'il** comprend des moyens pour protéger des capteurs qui sont présents à l'intérieur dudit distributeur (1, 101, 201, 301) contre des champs magnétiques qui peuvent être générés par lesdits moyens de blocage électromagnétiques, en particulier pendant les transitions pour l'activation et la désactivation desdits moyens.
11. Distributeur (1, 101, 201, 301) selon les revendications 1 et 10, **caractérisé en ce que** les moyens de protection se composent d'un circuit électronique pour la désactivation et la réactivation automatiques desdits capteurs pendant les transitions du fonctionnement desdits moyens de blocage électromagnétiques.
12. Distributeur (1) selon les revendications 1 et 11, **caractérisé en ce que** lesdits moyens électromagnétiques sont constitués d'au moins un premier aimant (6), qui est prévu au moyen d'une bobine qui est réalisée avec un matériau conducteur électrique, est électriquement entraîné, s'étend sensiblement horizontalement le long de la totalité ou d'une partie de la largeur dudit pied (2) et est agencé à l'intérieur dudit pied (2), à proximité de ladite face d'extrémité inférieure (4) dudit premier siège (3).
13. Distributeur (1) selon les revendications 1 et 12, **caractérisé en ce que** ledit au moins un premier aimant (6) est alimenté par une source de courant électrique, l'intensité du courant qui circule étant ajustée au moyen d'un dispositif de contrôle et d'ajustement électronique qui est intercalé entre ledit au moins un premier aimant (6) et ledit réseau électrique.
14. Distributeur (101) selon les revendications 1 et 11, **caractérisé en ce que** lesdits moyens de blocage électromagnétiques sont constitués par un ou plusieurs seconds aimants (110) qui sont agencés à l'intérieur dudit pied (102), sont approximativement parallèles à ladite bande de support de renfort (108) et sont agencés mutuellement côte à côte.
15. Distributeur (101) selon les revendications 1 et 14, **caractérisé en ce que** lesdits un ou plusieurs seconds aimants (110) ont chacun une première extrémité supérieure (111) agencée à proximité de ladite face d'extrémité inférieure (104) dudit premier siège (103).
16. Distributeur (101) selon les revendications 1 et 15, **caractérisé en ce que** lesdits un ou plusieurs seconds aimants (110) sont mutuellement espacés par un écartement choisi, qui est constant ou variable le long de la largeur dudit pied (102).
17. Distributeur (201) selon les revendications 1 et 11, **caractérisé en ce que** lesdits moyens de blocage électromagnétiques comprennent au moins un troisième aimant (211) et au moins un quatrième aimant (212), qui sont couplés de manière rigide par rapport aux parois mutuellement opposées dudit pied (202), dans une région qui est adjacente à ladite tête (205) et se trouvent au-dessus de celle-ci, et sont agencés approximativement parallèlement à ladite bande de support de renfort (208).
18. Distributeur (201) selon les revendications 1 et 17, **caractérisé en ce qu'il** comprend un élément de support (214) qui est approximativement aussi large que ledit pied (202) et supporte, au niveau de ses extrémités latérales, respectivement au moins un cinquième aimant (215) et au moins un sixième aimant (216), dont les deux sont du type entraîné électriquement.
19. Distributeur (201) selon les revendications 1 et 18, **caractérisé en ce que** ledit au moins un cinquième aimant (215) et ledit au moins un sixième aimant (216) sont agencés approximativement parallèlement à ladite bande de support de renfort (208) et sont respectivement alignés avec ledit au moins un troisième aimant (211) et au moins un quatrième aimant (212), et sont espacés l'un de l'autre, afin de former un premier espace (217) entre ledit au moins un troisième aimant (211) et ledit au moins un cinquième aimant (215) et un second espace (218) entre ledit au moins un quatrième aimant (212) et ledit au moins un sixième aimant (216).
20. Distributeur (201) selon les revendications 1 et 19, **caractérisé en ce que** les extrémités latérales opposées (219) d'une barre de support (220) sont logées à l'intérieur desdits premier et second espaces (217, 218), ladite barre de support (220) étant plus fine que la hauteur desdits premier et second espaces (217, 218), étant capable de se déplacer verticalement à l'intérieur de ces derniers, et étant réalisée, au moins au niveau de ses extrémités latérales

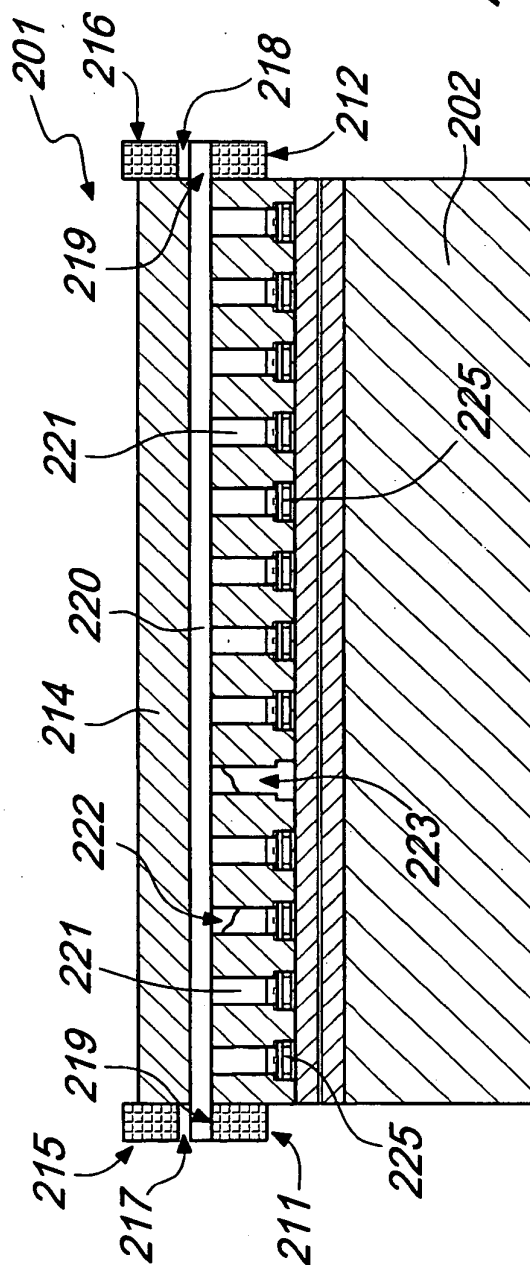
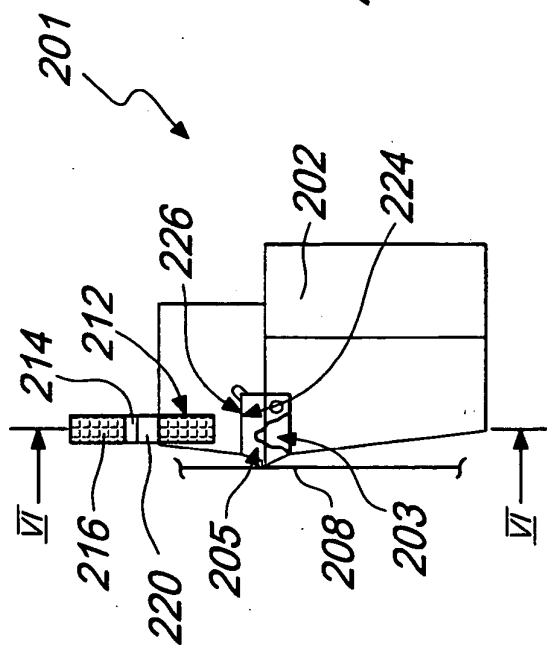
opposées (219), avec un matériau magnétique.

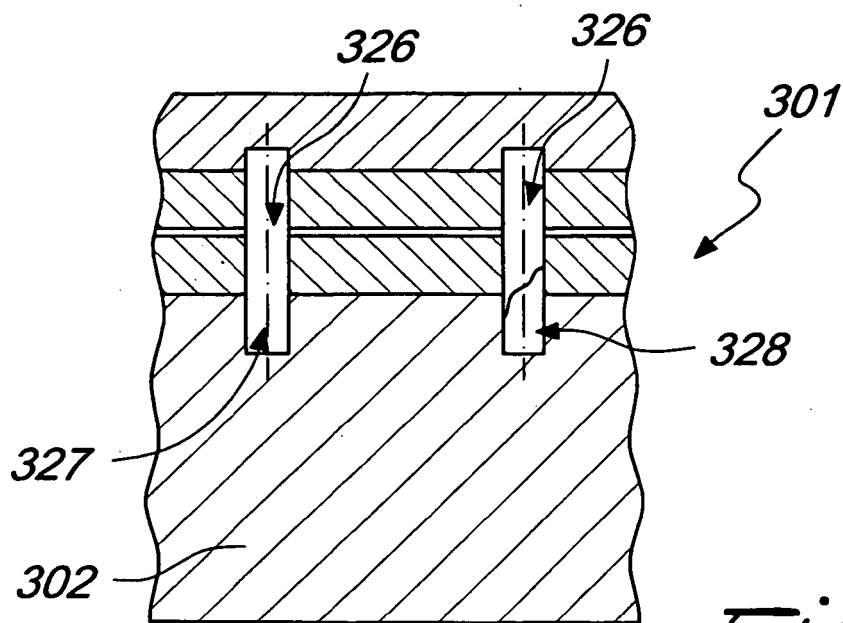
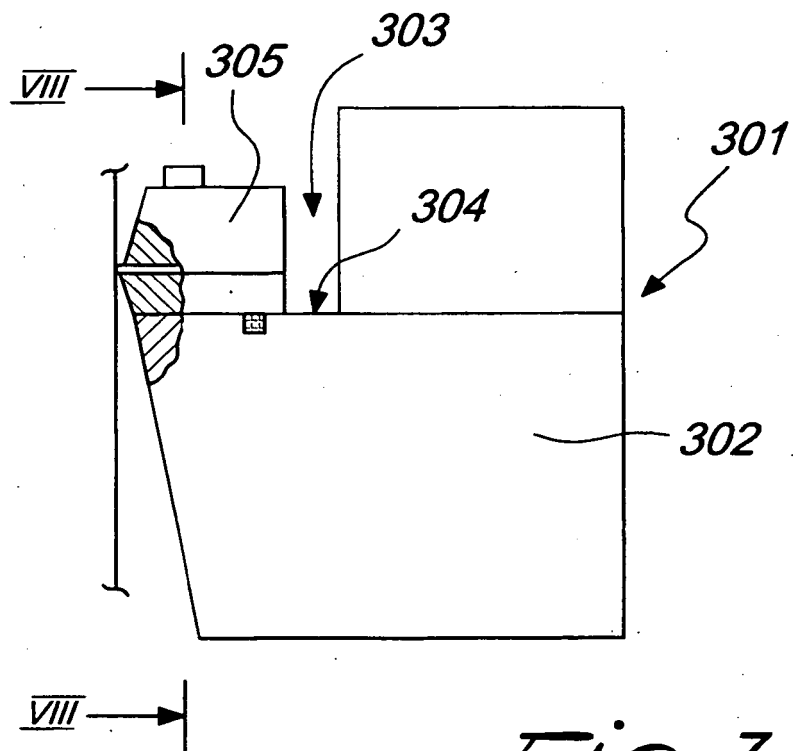
port audit pied (302).

21. Distributeur (201) selon les revendications 1 et 20,
caractérisé en ce qu'une ou plusieurs broches
(221) sont associées à ladite barre de support (220),
au-dessous de cette dernière, lesdites broches (221)
étant de préférence cylindriques ou parallélépipèdes
et étant agencées verticalement parallèles entre el-
les et de manière à pouvoir coulisser à l'intérieur d'un
ou plusieurs seconds sièges verticaux (222) de for-
me complémentaire, formés à l'intérieur dudit pied
(202) au niveau de ladite tête (205) et au-dessus de
cette dernière. 5 10
22. Distributeur (210) selon les revendications 1 et 21,
caractérisé en ce que lesdits un ou plusieurs se-
conds sièges (222) sont ouverts, au niveau de l'une
de leurs extrémités inférieures (223), au niveau
d'une paroi supérieure (224) dudit premier siège
(203), et chacun loge, à proximité de ladite extrémité
inférieure (223), un élément d'amortissement (225)
qui repose directement sur une face d'extrémité su-
périeure (226) de ladite tête (205). 15 20
23. Distributeur (201) selon les revendications 1 et 22,
caractérisé en ce que lesdites une ou plusieurs bro-
ches (221) ont une longueur qui est au moins égale
à la longueur de la région supérieure desdits se-
conds sièges (222) qui n'est pas occupée par lesdits
éléments d'amortissement (225). 25 30
24. Distributeur (201) selon les revendications 1 et 23,
caractérisé en ce que ladite barre de support (220)
peut passer d'une première position de blocage,
dans laquelle elle repose sur ledit au moins un troi-
sième aimant (211) et sur ledit au moins un quatriè-
me aimant (212), à une seconde position ouverte
dans laquelle elle se fixe dans une région inférieure
sur ledit au moins un cinquième aimant (215) et ledit
au moins un sixième aimant (216). 35 40
25. Distributeur (301) selon une ou plusieurs des reven-
dications précédentes, **caractérisé en ce qu'il** com-
prend deux broches (326) ou plus, qui sont insérées
verticalement à l'intérieur de ladite tête (305) et sont
logées, au niveau d'une extrémité inférieure (327),
dans des sièges verticaux (328) de fonte complé-
mentaire, qui sont formés à l'intérieur dudit pied
(302) et sont ouverts dans une région supérieure au
niveau de ladite face d'extrémité inférieure (304) du-
dit premier siège (303). 45 50
26. Distributeur (301) selon les revendications 1 et 25,
caractérisé en ce que lesdites deux broches (326)
ou plus sont agencées côte à côte et agencées de
manière appropriée à une certaine distance mutuel-
le, afin de constituer un élément de retenue contre
toute rotation involontaire de ladite tête (305) par rap- 55









REFERENCES CITED IN THE DESCRIPTION

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