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(54) **ELECTRICAL OUTLET**

(57) The invention relates to an electrical outlet, which comprises a side wall (2.1) demarcating a cavity; a bottom (2.2) at a first longitudinal end of the cavity; a cover (5) comprising at least two orifices (5.1), with the cover being (5) arranged so it is movable with respect to the bottom (2.2); and return means (7) for returning the cover (5) to a second longitudinal end of the cavity opposite the first longitudinal end. The electrical outlet additionally comprises retaining means (13, 14) that can be actuated to retain the cover (5), the cover (5) being moved with respect to the second longitudinal end, such that the return of the cover (5) by the action of the return means (7) is prevented.

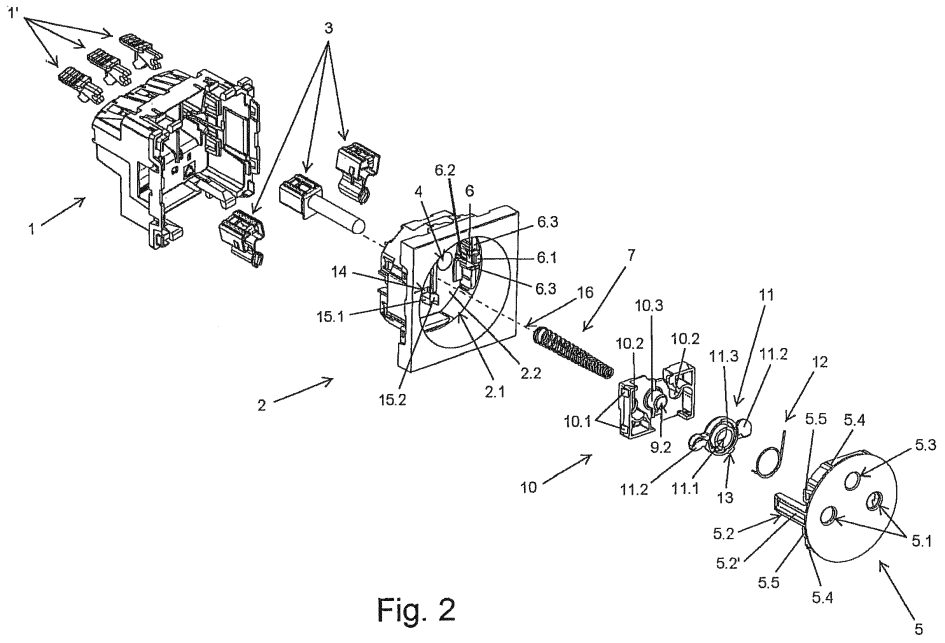

Fig. 2

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Description

Technical field

[0001] The present invention relates to the industry dedicated to electrical outlets, and more specifically to the industry dedicated to electrical outlets comprising an axially or longitudinally movable cover.

State of the art

[0002] Currently, electrical outlets, which include a cavity for receiving a plug such that metal pins of said plug are insertable into connection terminals of the outlet or socket such that an electrical connection between plug and socket is established, are widely known.

[0003] This cavity, however, has the drawback of accumulating dust and other unwanted particles. The cleaning of said cavity is limited or conditioned by the dimensions thereof, in addition to being hazardous due to the direct access it provides to the connection terminals.

[0004] One solution to this problem is known through patent document DE3731588A1. Said German document discloses an outlet with a cover for blocking access to the cavity. The possibility of dust and other unwanted particles being introduced in the cavity and housed therein is thereby prevented, in addition to providing a spacing with respect to the connection terminals.

[0005] The cover is also axially or longitudinally movable through the cavity such that, by the action of a plug pushing against said cover, the cover is movable towards a bottom of the cavity, being brought closer to the connection terminals of the outlet. This movement of the cover to the bottom enables the electrical connection to be established between plug and socket.

[0006] Said German document additionally discloses the use of a cylindrical spring to return the cover to the extended position in which it prevents the access of dust, for example, to the cavity. A projection partially traverses the cylindrical spring to keep one end thereof fixed and thus enable a rectilinear position to be maintained in the compression and decompression of said spring as a result of the longitudinal movements of the cover through the cavity.

[0007] On one hand, this configuration additionally has the advantage of providing a quick and simple cleaning of the electrical outlet, given the elimination of the access of dust and other unwanted particles to the cavity because in this manner, they cannot build up therein, in addition to being a first safety measure as it entails a spacing with respect to the connection terminals.

[0008] On the other hand, said configuration additionally provides a second safety measure, particularly in the presence of young children, since in order to establish electrical contact with the connection terminals, axial movement of the cover is required, with an opposition offered by said spring against elastic deformation being overcome so as to be compressed.

[0009] However, this configuration has the drawback of conditioning the electrical connection that can be established by the plug in the outlet to a press-fit arrangement of said plug in the socket and to a compression applied by the connection terminals on the metal pins of the plug inserted therein.

[0010] This in turn results in conditioning the manufacture of the outlet from the point of view of tolerances and materials for the purpose of providing a tight fit and rubbing with the plug being significantly contributed in the establishment of the electrical connection between them if so desired.

[0011] In the same manner, said configuration conditions the connection terminals since they are under an unsuitable state of stress while the electrical connection is established. This unsuitable state of stress is due to the fact that the connection terminals on the one hand subject the metal pins of the plug to compression, while on the other hand, but in a simultaneous manner, said metal pins are subjected, by the action of the cylindrical spring, to a force susceptible to dislodging them or releasing them from said compression of the connection terminals.

[0012] This disadvantageous conditioning factors in the manufacture and operation of electrical outlets, particularly when establishing and maintaining the electrical connection, are exacerbated by the passage of time and the repeated establishment of electrical connection and disconnection of the plug and socket. The service life of outlets during which they provide a proper and safe operation is thereby reduced.

[0013] In view of the described drawbacks or limitations of currently existing solutions, a solution is needed that enables the service life of outlets to be prolonged according to a proper and safe operation, while at the same time providing the movable cover to block access to the cavity.

Object of the invention

[0014] In order to fulfil this aim and resolve the aforementioned technical problems to date, in addition to providing additional advantages that can be derived later, the present invention provides an electrical outlet which comprises a side wall demarcating a cavity; a bottom at a first longitudinal end of the cavity; a cover comprising at least two orifices, with the cover being arranged so it is movable with respect to the bottom; and return means for returning the cover to a second longitudinal end of the cavity opposite the first longitudinal end.

[0015] The electrical outlet additionally comprises retaining means that can be actuated to retain the cover, the cover being moved with respect to the second longitudinal end, such that the return of the cover by the action of the return means is prevented. The retaining means are thereby configured for absorbing or counteracting a force applied by the return means to return the cover to the second longitudinal end of the cavity.

[0016] The retaining means can be actuated so as to retain the cover according to a movement with respect to the second longitudinal end of the cavity, according to which contact between metal pins of a plug with connection terminals comprised in the electrical outlet or socket can be carried out, such that an electrical connection between plug and socket can be established.

[0017] The retaining means comprise a tab with a retaining surface and a housing in which there is located a retaining face, where by means of actuating the retaining means, contact can be established between the retaining surface and the retaining face according to a plane of contact substantially perpendicular, or perpendicular, to a central longitudinal axis of the cavity. Absorption of the force applied by the return means to return the cover to the second longitudinal end of the cavity is thereby optimized.

[0018] The electrical outlet additionally comprises a hook, which is arranged such that, together with the bottom, it defines the housing. Preferably, the hook comprises a first extension and a second extension, the second extension having the retaining face, and with the first extension projecting from the bottom and the second extension projecting from the first extension such that the retaining face is contained according to a plane substantially perpendicular, or perpendicular, to the central longitudinal axis of the cavity.

[0019] The electrical outlet additionally comprises a closure element arranged such that it is longitudinally movable along the cavity, further being movable between a closing position for closing the orifices and an opening position for opening the orifices at any point along the cavity. That is, the closure element is movable between the opening and closing positions, being located according to the longitudinal extension of the cavity between the first longitudinal end and the second longitudinal end, including both.

[0020] The return means provide a first opposition to the movement of the cover towards the bottom and the retaining means provide a second opposition to being actuated, where the first opposition is less than the second opposition. This is how it is assured that the cover is moved to the bottom before the retaining means are actuated, that is, how access to connection terminals through the orifices comprised in the cover is blocked until the cover is arranged in correspondence with the bottom.

[0021] The electrical outlet additionally comprises recovery means for establishing the closing of the orifices, the recovery means having resistance to elastic deformation, such that the second opposition is determined by the resistance to elastic deformation. Preferably, said recovery means are a torsion spring.

[0022] The recovery means are for closing the orifices when they are arranged to return the closure element to the closing position. Accordingly, with the recovery means being the torsion spring, the occupied space is minimized while at the same time a rotation of the closure element between the closing and opening positions for closing and opening the orifices is favored.

[0023] Preferably, the return means are a conical spring with a compressive strength such that the first opposition is determined by the compressive strength.

[0024] The electrical outlet additionally comprises aligning means for maintaining the return means in accordance with a rectilinear arrangement in the movements of the cover. Preferably, the aligning means consist of a first hollow and a second hollow, each one housing an end portion of the return means.

[0025] Accordingly, the first hollow preferably projects from the bottom, whereas the second hollow is located in a case comprised in the electrical outlet, said case being arranged so that it is movable with the cover.

Description of the figures

[0026]

Figures 1A and 1B show perspective views of an electrical outlet object of the invention, with a cover being comprised in the electrical outlet according to two positions.

Figure 2 shows an exploded view of the electrical outlet object of the invention, according to an embodiment.

Figure 3 shows a perspective view of the cover comprised in the electrical outlet object of the invention.

Figure 4 shows a front view of a casing comprised in the electrical outlet object of the invention.

Figure 5 shows a side cross-sectional view of the casing comprised in the electrical outlet object of the invention.

Figure 6 shows a perspective view of the electrical outlet object of the invention without the cover, where retaining means can be seen according to a released position.

Figure 7 shows a detail indicated with reference "A" in Figure 6.

Figure 8 shows a front view of the electrical outlet object of the invention without the cover, where the retaining means can be seen according to a retaining position.

Figure 9 shows a detail indicated with reference "B" in Figure 8.

Detailed description of the invention

[0027] The present invention relates to an electrical outlet, which comprises a chassis (1) and a casing (2). The chassis (1) and the casing (2) are configured complementary to one another so as to be arranged coupled to one another, preferably by snap-fitting, such that they are equally releasable or separable from one another.

[0028] The electrical outlet, which may also be referred to as socket, comprises a side wall (2.1) and a bottom (2.2), both the side wall (2.1) and the bottom (2.2) being

part of the casing (2). The side wall (2.1) demarcates a cavity, laterally or around the perimeter, whereas the bottom (2.2) defines said cavity in depth or longitudinally. The bottom (2.2) is located at a first longitudinal end of the cavity. The side wall (2.1) and the bottom (2.2) thereby together determine the cavity.

[0029] The electrical outlet likewise comprises connection terminals (3) for establishing an electrical connection with a plug. The plug is not object of the present invention. The chassis (1) has engagement means (1'), preferably buttons, for fixing and releasing electrical cables with respect to the connection terminals (3). Optionally, the engagement means (1') may comprise screws for fixing and releasing electrical cables with respect to said connection terminals (3) in a manner that is complementary or alternative to the buttons.

[0030] Additionally, the connection terminals (3) are located in the chassis (1) such that they are accessible from the cavity by means of through holes (4), with the casing (2) being coupled in the chassis (1). These through holes (4) are located in the casing (2), and more specifically at the bottom (2.2).

[0031] Additionally, the electrical outlet comprises a cover (5), which is arranged in a movable manner with respect to the bottom (2.2). More specifically, the cover (5) is axially or longitudinally movable through the cavity, and even more specifically between the first longitudinal end and a second longitudinal end of the cavity, with the second longitudinal end being opposite the first longitudinal end.

[0032] The cover (5) can be seen in Figures 1A and 1B according to two positions, a recessed position according to which the cover (5) is located in correspondence with the first longitudinal end (Figure 1B) and an extended position according to which the cover (5) is located in correspondence with the second longitudinal end (Figure 1A).

[0033] The cover (5) has an inner surface and an outer surface. The inner surface is the surface facing the bottom (2.2) both in the recessed position and in the extended position of the cover (5), whereas the outer surface is opposite the inner surface and is the surface that is seen with the cover (5) being in any of the mentioned two positions.

[0034] The cover (5) comprises orifices (5.1) and at least one pin (5.2). Optionally, the cover (5) may additionally comprise one or two through holes (5.3) for the passage of one or two of the connection terminals (3). These through holes (5.3) are for housing through same the connection terminals (3) which act as a grounding connection or grounding contact rather than receivers of metal pins of the plug. There are at least two orifices (5.1), where there can be three, four or more; whereas in an independent manner, there are preferably two pins (5.2), although there may also be one, three or four.

[0035] Accordingly, the orifices (5.1) are developed from the inner surface to the outer surface such that they are through orifices. The orifices (5.1) are for the passage of the metal pins of the corresponding plug through the cover (5). The pins (5.2), in turn, project from the inner surface. The pins (5.2) establish the attachment or coupling of the cover (5) to the casing (2), in addition to the guidance of the cover (5) as it is moved with respect to the bottom (2.2) longitudinally through the cavity.

[0036] According to said guidance, each one of the pins (5.2) preferably has a longitudinal slot (5.2') on an external face. This longitudinal slot (5.2'), which can be seen in Figure 3, for example, is defined such that it is a space that is open while at the same time it is physically demarcated laterally and longitudinally.

[0037] Additionally, for this guidance the casing (2) has a through opening (6) through each one of the pins (5.2) such that each one of the pins (5.2) is arranged inserted in one of the through openings (6) with the possibility of moving longitudinally.

[0038] Each one of these through openings (6) includes a first projection (6.1), a second projection (6.2) and two flanges (6.3), preferably forming a unit with the casing (2). More specifically, the first projections (6.1) project from the side wall (2.1), the second projections (6.2) from the bottom (2.2) and the flanges (6.3) project together from the side wall (2.1) and the bottom (2.2), each one of the first projections (6.1) and second projections (6.2) having one of the flanges (6.3) on one side and the other one of the flanges (6.3) on the other side.

[0039] The first projections (6.1) are housed in the longitudinal slots (5.2'), in a laterally tight manner so as to be moved longitudinally through said slots (5.2') between the physical longitudinal demarcations, while they provide a lineal guidance of the pins (5.2) through the casing (2) as the cover (5) is moved through the cavity.

[0040] The second projections (6.2) prevent a radial movement of the pins (5.2) towards a central part of the cavity, or of the bottom (2.2), with the cover (5) being in correspondence with the second longitudinal end. In turn, the second projections (6.2) enable contact with internal faces opposite the external faces where the longitudinal slots (5.2') are located, such that they contribute to the linear guidance of the pins (5.2) through the casing (2) as the cover (5) is moved through the cavity.

[0041] The flanges (6.3), in turn, retain the pins (5.2) such that they prevent being moved laterally, that is, they prevent angular rotation of the cover (5) in the cavity. The pins (5.2) are thereby arranged through the through openings (6), such that while the first projections (6.1) are housed along the longitudinal slots (5.2') of the external faces of the pins (5.2), the internal faces of the pins (5.2) are demarcated and guided in their movements by the second projections (6.2) and the sides of the pins (5.2) are prevented from moving by contact with the flanges (6.3) in addition to the first projections (6.1) in the longitudinal slots (5.2') preventing movement in this sense as well.

[0042] The electrical outlet comprises return means (7) for returning the cover (5) to the second longitudinal end of the cavity. Therefore by the action of the return means

(7), the cover (5) is susceptible to being moved away from the bottom (2.2) and/or to being kept in correspondence with said second longitudinal end.

[0043] The return means (7) are compressed with the movement of the cover (5) towards the first longitudinal end of the cavity and decompressed or expanded with the movement of the cover (5) towards the second longitudinal end of the cavity. Accordingly, said return means (7) are arranged inserted in the casing (2), specifically through a passage (8) included in the casing (2) for such purpose.

[0044] The electrical outlet additionally comprises aligning means for maintaining the return means (7) in accordance with a rectilinear arrangement in the movements of the cover (5) between the recessed position and the extended position. That is, the aligning means are arranged and configured for maintaining said return means (7) with an imaginary central axis thereof rectilinear in the movements of the cover (5) between the first and second longitudinal ends of the cavity, with buckling or lateral movements of the return means (7) being prevented.

[0045] The aligning means are a first hollow (9.1) and a second hollow (9.2), each of which is arranged such that it partially houses the return means (7). The first hollow (9.1) is located in the casing (2) and the second hollow (9.2) is located in a case (10) comprised in the electrical outlet. More specifically, the first hollow (9.1) corresponds with a lower part of a first protrusion (2.3), which the casing (2) has, which is preferably blind.

[0046] Said first protrusion (2.3), and therefore the first hollow (9.1) as well, projects from the bottom (2.2) in an opposite manner with respect to the location of the cavity, as can clearly be derived from Figure 5. The first hollow (9.1) is accessible from the cavity through the passage (8).

[0047] Each one of the two mentioned hollows (9.1, 9.2) houses an end portion of the return means (7). Thus, with the said end portions being housed in the first hollow (9.1) and the second hollow (9.2), the return means (7) are compressible and extendable according to the movements of the cover (5) between the recessed position and the extended position, respectively, being maintained according to the mentioned rectilinear arrangement.

[0048] The return means (7) are preferably a conical spring, although it may alternatively be a cylindrical spring, such means having compressive strength in both cases. Where the return means (7) are a conical spring, as can be seen in Figure 2, for example, these return means (7) have a first end and a second end, with the second end being of a larger cross section than the first end given its taper. Preferably, a pushing force can be transmitted by means of the second end to the casing (2) and by means of the first end to the cover (5) for the distancing thereof with respect to the bottom (2.2). Accordingly, the second end, having a larger cross section, is arranged housed in the first hollow (9.1) and the first end is arranged housed in the second hollow (9.2).

[0049] The use of the conical spring significantly contributes to eliminating buckling or lateral movements, particularly at intermediate parts between both ends thereof, preventing the need to incorporate any element through the same for the guiding and/or alignment thereof. Accordingly, the conical spring is arranged free of shafts or similar elements inserted therethrough, which facilitates the general construction of the electrical outlet and impedes unwanted jamming or interactions in the movements of the cover (5).

[0050] The cover (5), in correspondence with the inner surface, additionally has a frame (5.4) and coupling points (5.5). The case (10), in turn, has shoulders (10.1). Accordingly, the case (10) can be detachably fixed to the cover (5) by means of fitting the shoulders (10.1) in the coupling points (5.5), preferably by snap-fitting. The case (10) is thereby movable together with the cover (5) between the first longitudinal end and the second longitudinal end of the cavity.

[0051] According to this fixing of the case (10) to the cover (5), the frame (5.4) surrounds or envelopes the perimeter of said case (10). Additionally, according to this fixing of the case (10) to the cover (5), through orifices (10.2) of the case (10) are opposite and aligned with the orifices (5.1) of the cover (5). Like the orifices (5.1) of the cover (5), these through orifices (10.2) are for the passage of the metal pins of the corresponding plug.

[0052] The electrical outlet comprises a closure element (11) arranged for moving between a closing position for closing the orifices (5.1) of the cover (5) and an opening position for opening said orifices (5.1). The closing position corresponds with the position of the closure element (11) such that it blocks access to the connection terminals (3) through the orifices (5.1). In contrast, the opening position corresponds with the position of the closure element (11) such that it allows access to the connection terminals (3) through the orifices (5.1). The mentioned access to the connection terminals (3) more specifically refers to access to the connection terminals (3) intended for acting as receivers of the metal pins of the corresponding plug. This movement of the closure element (11) between the closing and opening positions for closing and opening the orifices (5.1) can freely occur along the entire length of the cavity according to which it is longitudinally movable through same.

[0053] The closing position is shown in Figure 6, whereas the opening position for opening the orifices (5.1) is shown in Figure 8. The cover (5) has been eliminated In Figures 6 and 8.

[0054] The second hollow (9.2) in turn gives rise to a second protrusion (10.3) in the case (10) itself. The second protrusion (10.3) acts like a placement point for the closure element (11) in the case (10). Accordingly, the closure element (11) has a central orifice (11.1) for being arranged around the second protrusion (10.3) and in contact with said protrusion (10.3).

[0055] The second protrusion (10.3) is located such

that with the corresponding end portion of the return means (7), such as the first end of the conical spring, being in the second hollow (9.2) and the closure element (11) being placed in the case (10), the return means (7) project from one side of the case (10) and the closure element (11) is located on the other side of the case (10).

[0056] Where the closure element (11) is placed in the case (10) and the case (10) is fixed to the cover (5), said closure element (11) is arranged between the case (10) and the cover (5) such that the closing position for closing the orifices (5.1) entails a blocking which prevents the passage of the pins of the corresponding plug also through the through orifices (10.2) of the case (10).

[0057] The closure element (11) is arranged in the case (10), and more specifically in the second protrusion (10.3) of the case (10), such that it can be moved between the closing position and the opening position for opening the orifices (5.1). The movement of the closure element (11) is determined by recovery means (12) comprised in the electrical outlet. By means of these recovery means (12), the closure element (11) is susceptible to moving to be arranged according to the closing position for closing the orifices (5.1) and/or to being maintained according to said closing position. The recovery means (12) are, therefore, for returning the closure element (11) to the closing position for closing the orifices (5.1), that is, for establishing the closure of the orifices (5.1). For this purpose, the recovery means (12) have a resistance to elastic deformation.

[0058] Preferably, said recovery means (12) are a torsion spring such that the movement of the closure element (11) is determined by a relative rotation with respect to the second protrusion (10.3) of the case (10). In that sense, therefore, the closure element (11) is movable according to an angular rotation thereof between the closing position for closing the orifices (5.1) of the cover (5) and the opening position for opening said orifices (5.1). According to another option, the recovery means (12) can be a cylindrical spring such that the closure element (11) is also rotatable or linearly movable between said closing and opening positions.

[0059] The closure element (11), in turn, comprises at least one lug (11.2) with an inclined plane on one face. Preferably, there are two lugs (11.2). Each one of the lugs (11.2) comprised in the closure element (11) is arranged in correspondence and aligned with one of the orifices (5.1) according to the closing position to prevent access to the connection terminals (3) through the orifices (5.1). Likewise, according to the closing position the face with the inclined plane of each one of the lugs (11.2) is facing the cover (5), whereas the other face of each one of the lugs (11.2), opposite the former, is facing the case (10).

[0060] According to the facing arrangement of the inclined planes of the lugs (11.2) with respect to the orifices (5.1) of the cover (5), by means of pressure applied by the metal pins of the corresponding plug against said inclined planes, the closure element (11) is moved, and more specifically rotated, from the closing position to the opening position, such that said metal pins are insertable through the orifices (5.1) of the cover (5) and through the through orifices (10.2) of the case (10), in addition to being insertable through the through holes (4), accessing the connection terminals (3).

[0061] The torsion spring has resistance to elastic deformation, and more specifically resistance to torsion, such that it is susceptible to moving the closure element (11) to the closing position. Where the inclined planes of the lugs (11.2) are free of pressure applied against same, the closure element (11) thereby rotates from the opening position to the closing position.

[0062] The torsion spring is arranged partially housed in a groove (11.3), which is preferably circular, comprised in the closure element (11). Said torsion spring has two free ends, as can be seen in Figure 2. Where the torsion spring is in the groove (11.3) and the closure element (11) is arranged in the case (10), one of the free ends abuts with the closure element (11) itself, whereas the other one of the free ends abuts with the case (10).

[0063] For the purpose of counteracting or absorbing the pushing force which can be transmitted by the return means (7) to the cover (5) to move it away from the bottom (2.2), the electrical outlet additionally comprises retaining means. Therefore, regardless of the materials and tolerance grades in the manufacture of not only the electrical outlet but also of the corresponding plug, the cover (5) can be retained and the electrical connection is assured.

[0064] Likewise, these retaining means counteract or absorb a traction generated by the pushing force transmitted by the return means (7) on the metal pins which is susceptible to dislodging them or releasing them from the connection terminals (3).

[0065] Accordingly, with the electrical connection with the electrical outlet being established on the part of the corresponding plug, the contact between the connection terminals (3) and the metal pins is releasable from the described traction, such that only the compression applied by the connection terminals (3) acts on said metal pins. Therefore, a weakening in the connection terminals (3) which prevents suitable physical interaction by compression with the metal pins, in addition to an unwanted state in the electrical connection resulting from the simultaneous application of counterproductive stresses in the contact between said connection terminals (3) and said metal pins, are prevented through the retaining means.

[0066] These retaining means can be actuated to retain the cover (5), the cover (5) being moved with respect to the second longitudinal end of the cavity such that the return of the cover (5) to said second longitudinal end by the action of the return means (7) is prevented. More specifically, the retaining means are configured for retaining the cover (5) in the bottom (2.2), that is, in correspondence with the first longitudinal end of the cavity. The retaining means can thereby be actuated to retain the cover (5) in the recessed position, in which the electrical connection is established by means of the insertion

of the metal pins of the corresponding plug into the connection terminals (3).

[0067] The retaining means can be arranged according to a released position, which corresponds with the position that can be seen in Figure 6, and according to a retaining position, which corresponds with the position that can be seen in Figure 8. The retaining means are arranged such that they are susceptible to being located according to the released position.

[0068] The retaining means are arranged such that they can be actuated to retain the cover (5) by means of rotating the closure element (11) to the opening position for opening the orifices (5.1). That is, according to the rotation position of the closure element (11) the retaining means can be arranged according to the released position or the retaining position. Accordingly, the retaining position corresponds with the opening position and the closing position corresponds with the released position.

[0069] The return means (7) provide a first opposition to the movement of the cover (5) towards the bottom (2.2) and the retaining means provide a second opposition to being actuated, with the first opposition of the return means (7) being less than the second opposition of the retaining means. This occurs such that it is assured that the movement of the cover (5) to the recessed position occurs before the actuation of the retaining means occurs, such that they are arranged according to the retaining position.

[0070] The first opposition, the opposition to the movement of the cover (5) towards the bottom (2.2), is determined by the resistance to compression of the return means (7), and preferably of the conical spring. The second opposition, the opposition to the actuation of the retaining means, however, is determined by the resistance to elastic deformation of the recovery means (12) so that the closure element (11) is moved from the closing position to the opening position for opening the orifices (5.1), and preferably the resistance to elastic deformation corresponds with the resistance to torsion of the torsion spring.

[0071] Where the cover (5) is moved in correspondence with the bottom (2.2) and the metal pins of the corresponding plug are inserted in the connection terminals (3), in addition to being inserted through the orifices (5.1) of the cover (5), the through orifices (10.2) of the case (10) and the through holes (4) of the casing (2), the retaining means can be actuated to be arranged according to the retaining position such that they establish the retaining of the cover (5) in the bottom (2.2), counteracting the traction generated by the return means (7) which is susceptible to dislodging or releasing said metal pins from the compression of the connection terminals (3).

[0072] The retaining means comprise a tab (13) with a retaining surface (13') and a housing (14), the tab (13) being able to be housed or fitted in said housing (14) such that axial or longitudinal retention of the cover (5) is established. By means of the actuation of the retaining means, the tab (13) is arranged housed in the housing (14).

[0073] The electrical outlet preferably comprises a hook (15) for defining the housing (14). Accordingly, the hook (15) comprises a first extension (15.1) and a second extension (15.2), with the second extension (15.2) having a retaining face (15.2').

[0074] Preferably, the tab (13) is arranged such that it is movable with respect to the bottom (2.2) together with the cover (5), additionally with respect to the housing (14), while the housing (14) is in correspondence with the bottom (2.2). Alternatively, the tab (13) can be located in correspondence with the bottom (2.2) and the housing (14) can be arranged such that it is movable with respect to the bottom (2.2) together with the cover (5).

[0075] Accordingly, the tab (13) is arranged in the closure element (11). Thus, with the closure element (11) being rotated such that the resistance to elastic deformation of the recovery means (12), and preferably the resistance to torsion of the torsion spring, are overcome, the tab (13) is movable, preferably in an angular manner, such that it is housed in the housing (14) according to the retaining position. Likewise, when said resistances are not overcome, that is, the closure element (11) is free of greater forces than those corresponding to said resistances, the tab (13) is movable, preferably in an angular manner, such that it is dislodged from the housing (14) according to the released position.

[0076] The first extension (15.1) extends from the bottom (2.2) preferably substantially perpendicular, or perpendicular, with respect to said bottom (2.2), while the retaining face (15.2') of the second extension (15.2) extends after the first extension (15.1). Said second extension (15.2) extends such that the retaining face (15.2') is arranged perpendicular, or substantially perpendicular, with respect to an imaginary central longitudinal axis (16) of the cavity.

[0077] The hook (15), together with the bottom (2.2), defines the housing (14). Thus, axial or longitudinal retention of the cover (5) occurs by means of the arrangement of the tab (13) in the housing (14), that is, by means of the arrangement of the tab (13) between the bottom (2.2) and the second extension (15.2).

[0078] The retention of the cover (5) occurs by means of the arrangement of the tab (13) in the housing (14). Accordingly, said retention occurs with the cover (5) being in correspondence with the bottom (2.2), that is, according to the first longitudinal end of the cavity. Likewise, in this arrangement of the cover (5) the electrical connection can in turn be established by means of the insertion of the metal pins of the corresponding plug in the connection terminals (3).

[0079] Accordingly, the tab (13) and the second extension (15.2) are configured for, with the retaining means being actuated, the cover (5) being retainable in correspondence with the bottom (2.2) by means of contact with one another, with said contact being according to a plane of contact substantially perpendicular, or perpendicular, to the central longitudinal axis (16) of the cavity.

Accordingly, in addition to the retaining face (15.2') being arranged perpendicular, or substantially perpendicular, with respect to the central longitudinal axis (16) of the cavity, the retaining surface (13') is also arranged perpendicular or substantially perpendicular with respect to the central longitudinal axis (16) of the cavity when the tab (13) is housed in the housing (14). Thus, the force applied by the return means (7) to return the cover (5) to the second longitudinal end of the cavity can be absorbed or counteracted.

Claims

1. An electrical outlet, comprising:

- a side wall (2.1) demarcating a cavity;
- a bottom (2.2) at a first longitudinal end of the cavity;
- a cover (5) comprising at least two orifices (5.1), with the cover being (5) arranged so it is movable with respect to the bottom (2.2); and
- return means (7) for returning the cover (5) to a second longitudinal end of the cavity opposite the first longitudinal end;

characterized in that it additionally comprises:

- retaining means that can be actuated to retain the cover (5), the cover (5) being moved with respect to the second longitudinal end, such that the return of the cover (5) by the action of the return means (7) is prevented.

2. The electrical outlet according to claim 1, **characterized in that** the retaining means comprise a tab (13) with a retaining surface (13') and a housing (14) in which there is located a retaining face (15.2'), where by means of actuating the retaining means, contact can be established between the retaining surface (13') and the retaining face (15.2') according to a plane of contact substantially perpendicular to a central longitudinal axis (16) of the cavity.

3. The electrical outlet according to claim 2, **characterized in that** it additionally comprises a hook (15), which is arranged such that, together with the bottom (2.2), it defines the housing (14).

4. The electrical outlet according to claim 3, **characterized in that** the hook (15) comprises a first extension (15.1) and a second extension (15.2) with the retaining face (15.2'), with the first extension (15.1) projecting from the bottom (2.2) and the second extension (15.2) projecting from the first extension (15.1) such that the retaining face (15.2') is contained according to a plane substantially perpendicular to the central longitudinal axis (16) of the cavity.

5. The electrical outlet according to any one of the preceding claims, **characterized in that** it additionally comprises a closure element (11) arranged such that it is longitudinally movable along the cavity, further being movable between a closing position for closing the orifices (5.1) and an opening position for opening the orifices (5.1) at any point along the cavity.

6. The electrical outlet according to any one of the preceding claims, **characterized in that** the return means (7) provide a first opposition to the movement of the cover (5) towards the bottom (2.2) and the retaining means provide a second opposition to being actuated, where the first opposition is less than the second opposition.

7. The electrical outlet according to claim 6, **characterized in that** it additionally comprises recovery means (12) for establishing the closing of the orifices (5.1), the recovery means (12) having resistance to elastic deformation, such that the second opposition is determined by the resistance to elastic deformation.

8. The electrical outlet according to claim 7, **characterized in that** the recovery means (12) are a torsion spring.

9. The electrical outlet according to any one of claims 6 to 8, **characterized in that** the return means (7) are a conical spring with a compressive strength such that the first opposition is determined by the compressive strength.

10. The electrical outlet according to any one of the preceding claims, **characterized in that** it additionally comprises aligning means for maintaining the return means (7) in accordance with a rectilinear arrangement in the movements of the cover (5).

11. The electrical outlet according to claim 10, **characterized in that** the aligning means consist of a first hollow (9.1) and a second hollow (9.2), each one housing an end portion of the return means (7).

12. The electrical outlet according to claim 11, **characterized in that** the first hollow (9.1) projects from the bottom (2.2).

13. The electrical outlet according to claim 10 or 11, **characterized in that** it additionally comprises a case (10) arranged so that it is movable with the cover (5), with the second hollow (9.2) being located in the case (10).

Fig. 1A

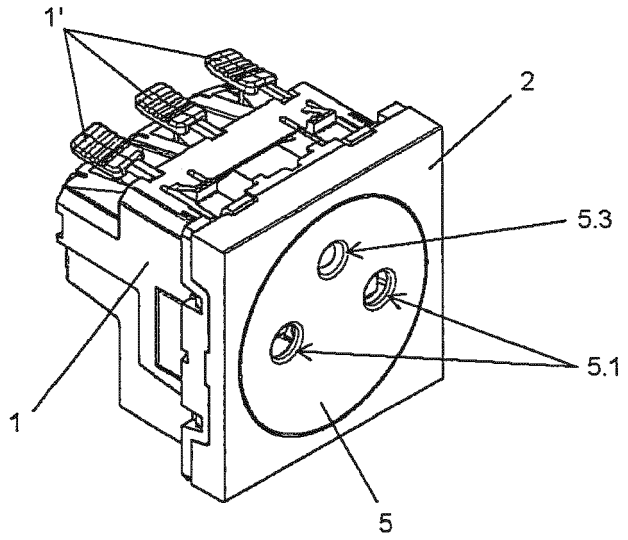
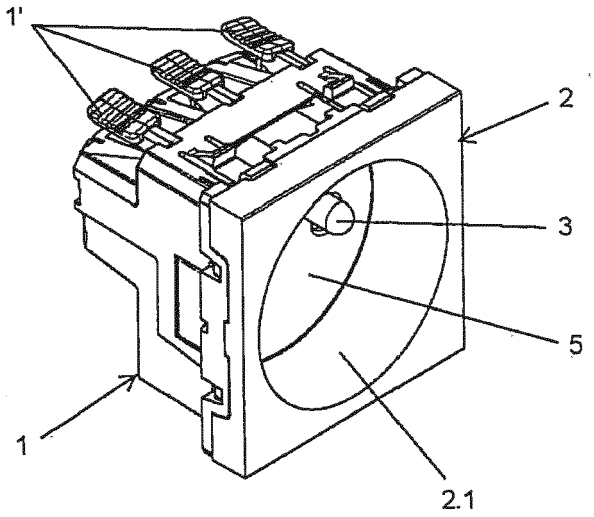
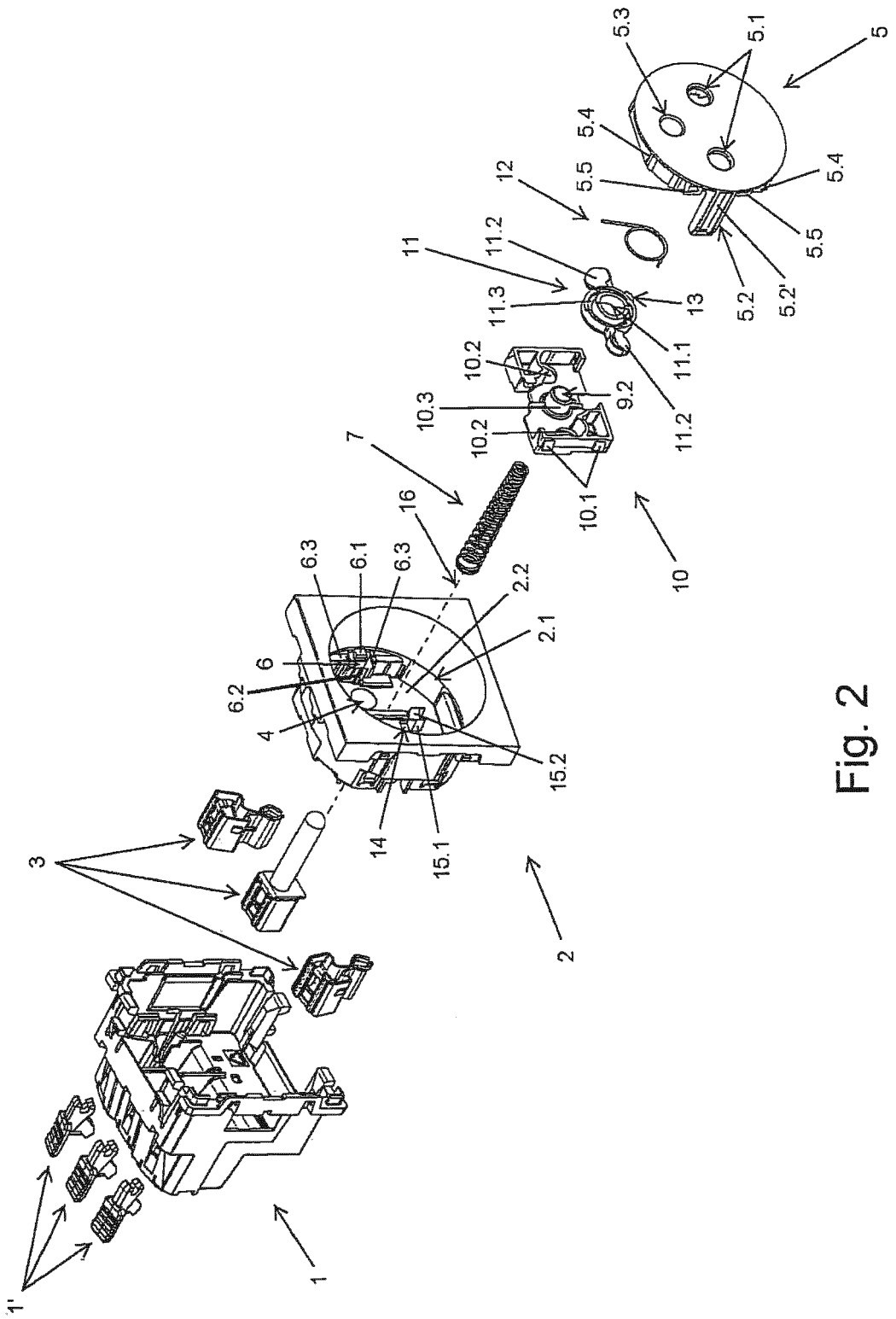


Fig. 1B

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6.3
7
9.2
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10.1
10.2
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15.2
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2.1
2.2

Fig. 2

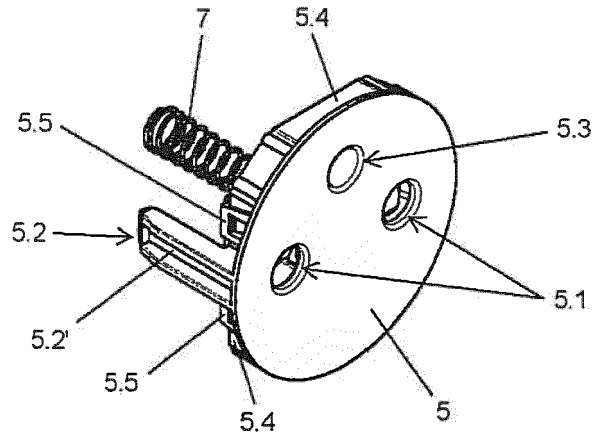


Fig. 3

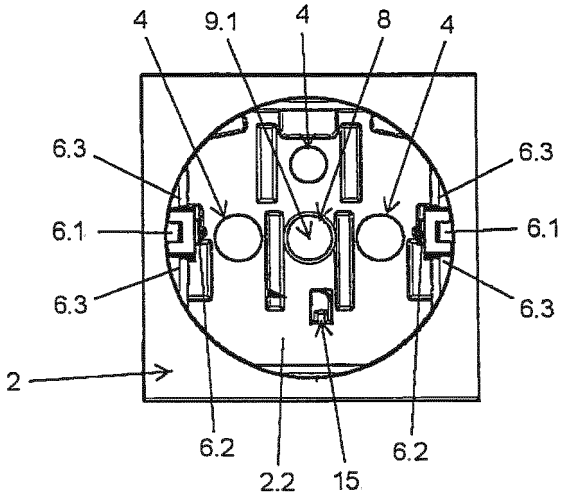


Fig. 4

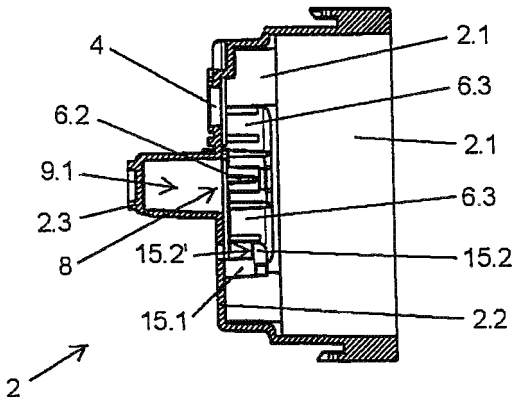
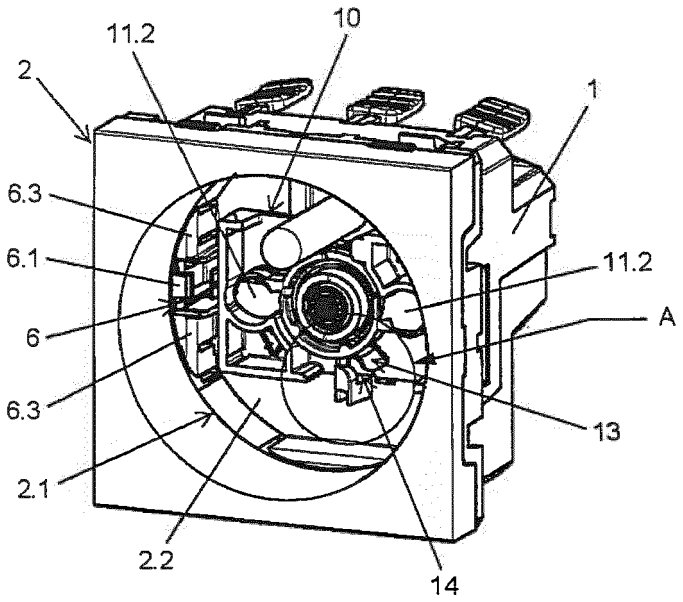


Fig. 5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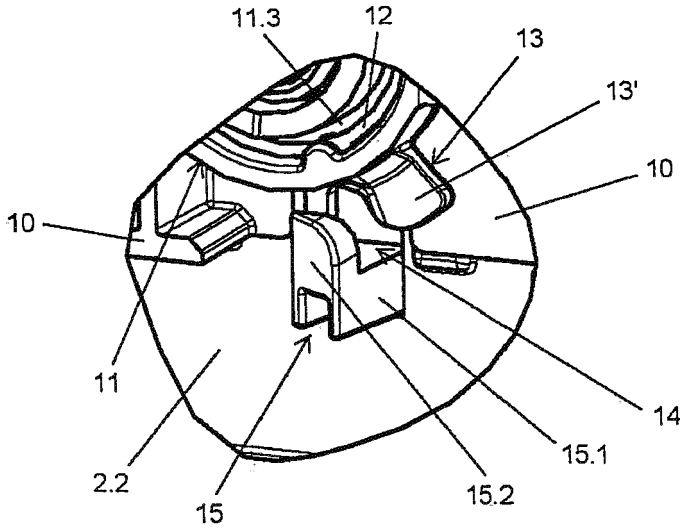
2.2
14

Fig. 6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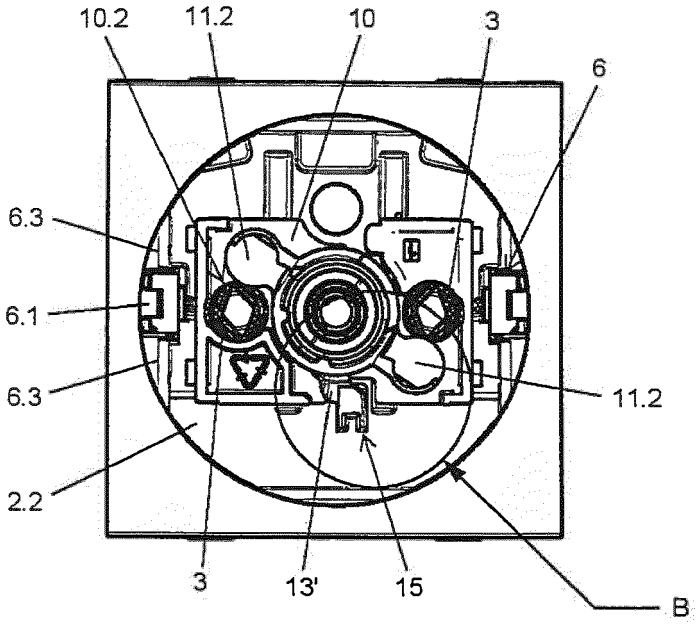
15.2

Fig. 7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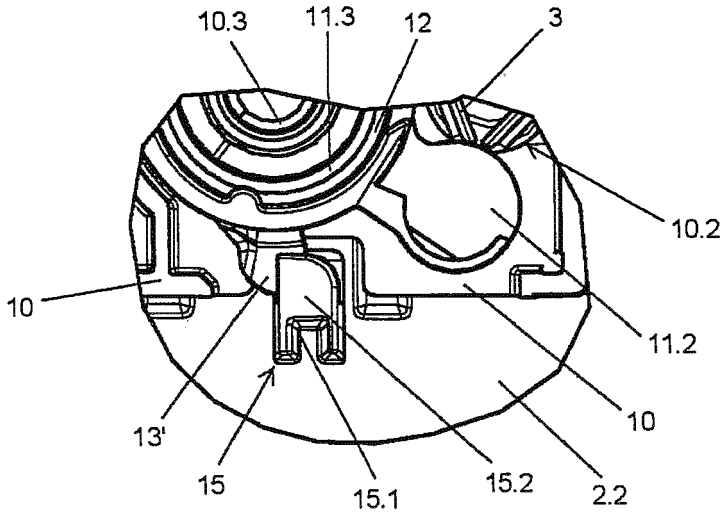
13'
15
B

Fig. 8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2.2

Fig. 9

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EUROPEAN SEARCH REPORT

Application Number
EP 19 15 1925

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	8 May 2019	Skaloumpakas, K

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