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BODY FOR ELECTRICAL OUTLET OR PLUG

The present utility model pertains, in general, to the electrical outlets or plugs for industrial and/or tertiary use, and it pertains specifically to the body of said outlets or plugs.

5 The electrical outlets or plugs for industrial or tertiary use usually comprise a body and a connecting jack, the latter being enclosed in the body and having pins for connection with the openings of a complementary outlet or having openings for connection with the pins of a plug. In general, the body consists of a grip element and a jack-holding element and the said two elements are fixed to one another in the axial direction usually with a bayonet-type connection.

According to a current embodiment, such a connection is made and secured with the insertion of a flat spring between the parts of the two elements to be connected, which spring is intended to prevent an unintentional or accidental release of the two elements once they have been joined. However, the presence of an inserted spring involves problems and complications in the assembly phase of the unit.

The object of the present utility model is to prevent such problems by the elimination of the inserted spring, but still securing a positive connection and fixation between the two elements that form the body of an electrical outlet or plug.

This object is accomplished, according to the present utility model, with at least one peripheral spring-like tongue, which is made in one piece, by means of molding, with one of the elements of the outlet or plug body, and is intended for interfering and engaging, by springing, with the other element when the said body is assembled so as to prevent the unintentional disassembly thereof.

Greater details of the present utility model will become more evident from the description below with reference to the attached indicative and nonlimiting drawings, in which:

Figure 1 schematically shows the two elements of the body of an electrical plug, disassembled;

Figure 2 shows a front view of the element with spring-like tongue;

Figure 3 shows the assembled plug body; and

Figure 4 shows a cross section of the assembled plug body.

In the said drawings, the body of an electrical plug is indicated globally as 10. This [body] consists of a grip element 11 and a holder element 12, which holds a connecting jack, which, in the case shown, appears with pins 13 (Figure 1). The grip element 11 has a collar 11' which is inserted into a collar 12' of the jack-
5 holding element 12, and the two elements 11, 12 are joined by means of a bayonet connection.

For this purpose the collar 11' of the grip element 11 has two radial fins 14, 14' and the collar 12' of the jack-holding element 12 has two seats or slits 15, 15' which are intended for accommodating the fins 14, 14' following an axial and
10 rotating movement of one element in relation to the other.

The grip element 11 also has at least one spring-like stopping tongue 16, which is intended to maintain the fixation between the two elements 11, 12, once they have been connected.

15 According to the present utility model, this tongue 16 is made in a single piece, i.e., by molding, with the element 11. More precisely, the said spring-like tongue 16 is a continuation of an end of a radial fin 14 of the element 11, extends in the direction opposite the direction of rotation which makes possible the bayonet connection between the two elements of the body, and it ends with a tooth 17
20 turned outwards. On the other hand, a cam surface 18 that is suitable for bringing about a bending (inwards) of the spring-like tongue 16 during the the connection of

the two elements 11, 12 of the body 10 may be provided on the bottom of one of the seats or slits 15 that are intended to accommodate the fins 14.

In practice, during the corresponding rotation of the two elements 11, 12 for their connection the spring-like tongue 16 bends first, being spring-loaded, thanks to the contact of its end tooth 17 with the bottom and/or the cam surface 18 of the seat or slit 15, in which it is inserted. Then, when the fins 14 are against the limit stop strokes, the spring-like tongue 16, reacting, returns to the original position, in which its end tooth 17 is engaging against a shoulder 19 at the end of the seat or slit opposite that against which the fin, which is made in one piece with the tongue, rests (Figure 4). The tooth 17 of the tongue will then prevent the reverse rotation of one element of the body in relation to the other, thus inhibiting their unintentional or accidental disassembly. In fact, the two elements 11, 12 of the body 10 may be disconnected intentionally only by intervening from the outside using a tool to bend the tongue 16 inwards [typo in original document: l'intenro should be l'interno - Tr.Ed.] until its tooth 17 is released from the support shoulder 19.

At the free end of the spring-like tongue 16 may be provided an attachment 20, which extends beyond the tooth 17 to engage inside the collar of the element 12, at the edge of the seat or slit 15 when the elements are connected, and the tooth 17 engages against the shoulder 19. The function of such an attachment is to prevent the spring-like tongue from being bent and pushed outwards, deforming it,

following a forced rotation of one element of the body in relation to the other.

Finally, it should be noted that the position of the fins and of the slits may be reversed with the former on the jack-holding element and the latter on the grip element.

C L A I M S

1. Said electrical outlet or plug for industrial and/or tertiary use which comprises a said body (10) enclosing a said connecting jack having said openings or said pins, where the said body consists of a said grip element (11) and of a said jack-holding element (12), which are joined in the axial direction by means of a bayonet connection and by placing at least one spring-like stopping means between them, and where, for their connection, one (11) of the said elements of the body has the said radial fins (14, 14') and the other said element (12) of the body has the said seats or slits (15, 15') for accommodating and holding the said fins and following a corresponding rotation of one element in relation to the other, characterized in that the said spring-like stopping means is in the form of a said spring-like tongue (16), which forms a single piece with one of the said elements of the body and engages, by springing, with a said support shoulder (19) on the other said element of the body.

2. Outlet or plug in accordance with claim 1, in which the said radial fins are on the said grip element, and the said slits are on the said jack-holding element.

3. Outlet or plug in accordance with claim 1, in which the said radial fins are on the said jack-holding element, and the said slits are on the said grip element.

4. Outlet or plug in accordance with claim 1, 2 or 3, in which the said spring-like tongue (16) is made in one piece with and as a continuation of an end of one (14) of the said radial fins (14, 14') of a said element (11), which is intended for engaging with the said seats or slits of the other said element of the body.

5 5. Outlet or plug in accordance with claim 4, in which the said spring-like tongue (16) extends from the said fin (14) in the direction opposite the direction of rotation, which makes possible the bayonet connection between the said two elements (11, 12) of the body, and ends with a said tooth (17) turned outwards to engage with the said support shoulder (19) when the said two elements are joined
10 to one another in order to inhibit the opposite rotation, which makes possible the release of the said two elements proper.

6. Outlet or plug in accordance with claim 5, in which the said radial fins (14, 14') are on the said grip element of the body, the said seats or slits (15, 15') are on the said jack-holding element (12), and the spring-like tongue (16) is made in one
15 piece with one (14) of the said radial fins, and its said end tooth (17) engages with a said support shoulder (19), which is provided at one end of the said seat or slit (15) intended for accommodating the said fin with the said spring-like tongue (16).

7. Electrical outlet or plug in accordance with claim 6, in which a said cam

surface (18) is provided in the said seat or slit (15) for bending the said spring-like tongue (16) inwards during the rotation for connecting the said two elements of the body, with the said spring-like tongue springing outwards into a position of engaging with the said support shoulder (19) at the end of the said rotation.

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8. Electrical outlet or plug in accordance with any of the above claims, in which a said attachment (20), which engages with the edge of the said seat or slit (15), which defines the support shoulder for the said tooth (17) to prevent the bending and the forced bending outwards of the said spring-like tongue, is provided at the free end of the said spring-like tongue.