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(54) Female terminal for electronics with a sheath

(57) The invention refers to a terminal designed for electronic circuits in which, as a consequence of the small amperage running through said circuits, these need contact elements manufactured with an extreme accuracy and allowing in a small espace contact zones provided in the terminal itself and protection zones provided in the corresponding sheath, which wraps the terminal protecting it against the non-desired effects of the exterior, that in the other hand provide arranging said sheath over elements allowing the retention of the terminal of the sheath in the corresponding bodies and connectors.

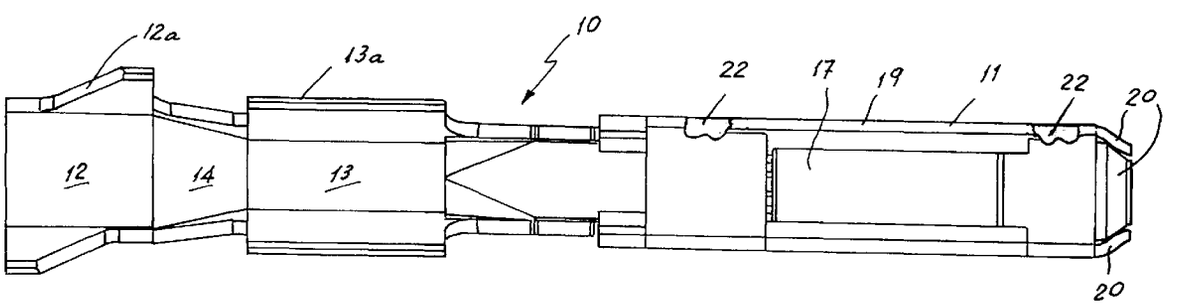

FIG. 1

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Description

[0001] The present application for a Patent of Invention consists, as indicated in its title, in a "FEMALE TERMINAL FOR ELECTRONICS WITH A SHEATH", which novel characteristics of manufacturing, shaping and design fullfill the object for which had been specifically designed with a maximum safety and efficiency.

[0002] More exactly, the invention refers to terminals designed for electronic circuits in which, as a consequence of the small amperage running through said circuits, these need contact elements manufactured with an extreme accuracy and allowing in a small espace contact zones provided in the terminal itself and protection zones provided in the corresponding sheath, which wraps the terminal protecting it against the non-desired effects of the exterior, that in the other hand provide arranging said sheath over elements allowing the retention of the terminal of the sheath in the corresponding bodies and connectors.

[0003] There exist in the market and therefore may be considered the State of the Art a plurality of female terminals, the function of which is that of being placed in the free ends of the corresponding electric wires naked of the corresponding electric sheath in the union point of the terminal.

[0004] Said female terminals cover the function of contacting with other male terminals crimped to the ends of the corresponding electric wires.

[0005] Said male and female terminals, after making contact, are placed by suitable means in the interior of the corresponding bodies or cavities provided to that effect in the corresponding connectors, in which are centralized a plurality of said male and female terminals.

[0006] Some of the female terminals, as it,s is a known form, are designed in such a way that the body of the female terminal itself is shaped in such a way that allows a certain degree of protection against the exterior agents of the contact zones, among the designed in the interior of the female terminal and those of the male terminal.

[0007] The present invention has the object of designing a new female terminal, intended for electronic circuits, but provided with the corresponding sheath, which carries out the function of some portions of female terminals actually in the market and which provide a protection zone inherent to the terminal itself.

[0008] The proposed female terminal is basically formed with zones allowing the setting of said terminal to the corresponding electric wire and its conductive portion, and a body of the terminal itself showing a cross-section in the shape of an "U" and which has been specifically designed for being able of setting in the corresponding sheath, which has a parallelepipedic configuration, without upper or lower bases and which has been mechanized in such a way that two of its lateral walls show a fold wich serve as a setting element with the corresponding lateral walls of the terminal's body, the lateral walls of the terminal and sheath serving thus as guiding and setting elements in the joining of both, beig fixed the terminal and its sheat with two points of laser welding.

[0009] In the inside part of the female terminal are provided in its body inclined planes, the purpose of which is that of allowing the electrical contact with the male terminal introduced in the interior portion of the female terminal.

[0010] Other details and characteristics will be manifest through the reading of the description given herebelow, in which reference is made to the figures attached to this description where the above details are depicted in a rather schematic way. These details are given as an example, referring to a case of a possible practical embodiment, but is not limited to the details outlined; therefore this description must be considered from an illustrative point of view and with no limitations whatsoever.

[0011] There follows a detailed report of the several elements named in the present description: (10) female terminal, (11) sheath, (11a) horizontal base, (11b) horizontal base, (11c) lateral wall, (11d) lateral wall, (11cc) extension, (12) widened base, (12a) wings, (13) narrowed base, (13a) wings, (14) truncated cone zone, (15) truncated cone zone, (16) body, (16a) flat base zone, (16b) lateral wall, (17) tongue, (18) appendix, (19) extension, (20) ears, (21) contact plane, (22) welding points.

[0012] Figure 1 is an upper plant view of the female terminal (10) proposed with a sheath (11) covering the body (16).

[0013] Figure 2 is an elevation lateral view of the female terminal (10) with the sheath (11) covering the body (16).

[0014] Figure 3 is a lower plant view of the proposed female terminal (10) with its sheath (11) incorporated.

[0015] Figure 4 is a perpective view the female terminal (10) with its sheath (11) incorporated.

[0016] Figure 5 is a perspective view the female terminal (10) with its sheath (11) incorporated seen from its lower portion.

[0017] Figure 6 is an elevation cross-section of the female terminal (10) and sheath (11).

[0018] In one of the preferred embodiments of what is the object of the present application for an Utility Model, and as can be seen in the Figures 1, 2, 3, 4 and 5, the female terminal (10) is formed with a widened base (12) from which emerge wings (12a) alternatively positioned, extending said base (12) in a truncated cone zone (14), which in turn extends as per a narrowed base (13) from which emerge upwards wings (13a) extending said base (13) in turn in a truncated cone zone (15) opening itself towards the terminal's body (16), which, as can be seen in Figure 6, shows a cross-section in the shape of an "U".

[0019] The body (16) of the female terminal (10) has a flat base (16a) from whose lateral bases (16b) emerge

contact planes (21).

[0020] The sheath (11), as can be seen in Figures 1, 2, 3, 4 and 5 shows a parallelepipedic configuration, without the upper and lower bases and formed with horizonbtal bases (11a) and (11b) related through lateral walls (11c) and (11d). The lateral bases as well as the lateral walls extend from one of their ends as per ears (20) in the form of inclined planes converging the free corners of them all.

[0021] From one of the lateral bases, the upper one (11a) emerges a tongue (17), whilst one of the lateral bases or walls extends as per an extension (19).

[0022] The sheath (11) is mounted in the body (16) of the female terminal (10) in grace, and as can be seen in Figure 6, to the provision that its lateral walls (11b) and (11d) fold over themselves as per extensions (11cc) and (11dd), covering the lateral walls (16b) of the body (16) of the terminal.

[0023] As can be seen in Figure 6, for the fitting of the terminal (10) into the sheath (11) is introduced the first into the second in such a way that in grace to the measurings of the body (16) same slids in its lateral walls (16b) by the inside of the extensions (11cc) and (11dd) produced because of the deformation of the walls (11c) and (11d) of the sheath themselves.

[0024] In order to estabilish the corresponding contact with the male terminal, not shown in the figures, from the lateral walls (16b) of the body (16) of the female terminal (10) emerge contact planes (21).

[0025] The object of the sheath (11) manufactured with a material different of that of the terminal is that of protecting the contact estabilished between the male terminal and the contact plane (21), stiffening at the same time said contact and the male and female terminals respectively, since being manufactured in small dimensions, 0,635 mm^2 and being of a very small size, any force may produce its deformation, and because of that said sheath strengthens the assembly and at the same time stabilizes the contact estabilished between the corresponding male terminal and the contact plane (21) emerging from the lateral faces (16b) of the body (16) of the terminal (10); in other equivalent incorporation, the sheat (11) is immobilized by a welding points (22) to the extension (19), see figure 4.

[0026] Enough disclosed what the present Patent of Invention in agreement with the figures attached, it's understood that can be introduced in same any detail modifications regarded as convenient, always without departing from the essence of the present model as summarized in the following Claims.

Claims

1. "FEMALE TERMINAL FOR ELECTRONICS WITH A SHEATH" of those formed with zones specially designed for the setting of the terminal (10) at the end of a electric wire withour its sheath for what, as is a known solution, has been provided a widened base (12) from which emerge alternatively wings (12a), being extended said base (12) in a narrowed base (13) from which emerge wings (13a) being related (12) and (13) through a truncated cone zone (14), being finally extended the narrowed base (13) as per other truncated cone zone from which sprouts the terminal's body (16) of the female terminal (10), characterized in that said body (16) presents a tranverse zone "U" shaped, formed with a flat base zone (16a) from which emerge perpendicularly lateral walls (16b), emerging from same inclined planes (21), being covered the lateral walls (16b) with a sheath (11).

2. "FEMALE TERMINAL FOR ELECTRONICS WITH A SHEATH" characterized as per the Claim 1 in that the sheath (11) presents a parallelepipedic configuration, lacking the upper and lower bases, extending the faces of the sheath (11) as per converging ears (20) or apendixes, being constituted the sheath (11) body on the basis of horizontal basis (11a) and (11b) related through lateral walls (11c) and (11d) emerging from one of the lateral bases (11a) upwards a tongue (17) of the same material than (11), being extended one of the lateral wall as per an extension (19).

3. "FEMALE TERMINAL FOR ELECTRONICS WITH A SHEATH" characterized as per the above Claims in that the lateral walls (11c) and (11d) in the front zone of the sheath (11) are extended folding also inwards as per extensions (11cc) and (11dd) which envelope the free ends of the lateral walls (16b) of the body (16) of the terminal (10).

4. "FEMALE TERMINAL FOR ELECTRONICS WITH A SHEATH" characterized as per Claim 1 in that the horizontal face or base (11a) is attached to the extension (19) by welding points (22).

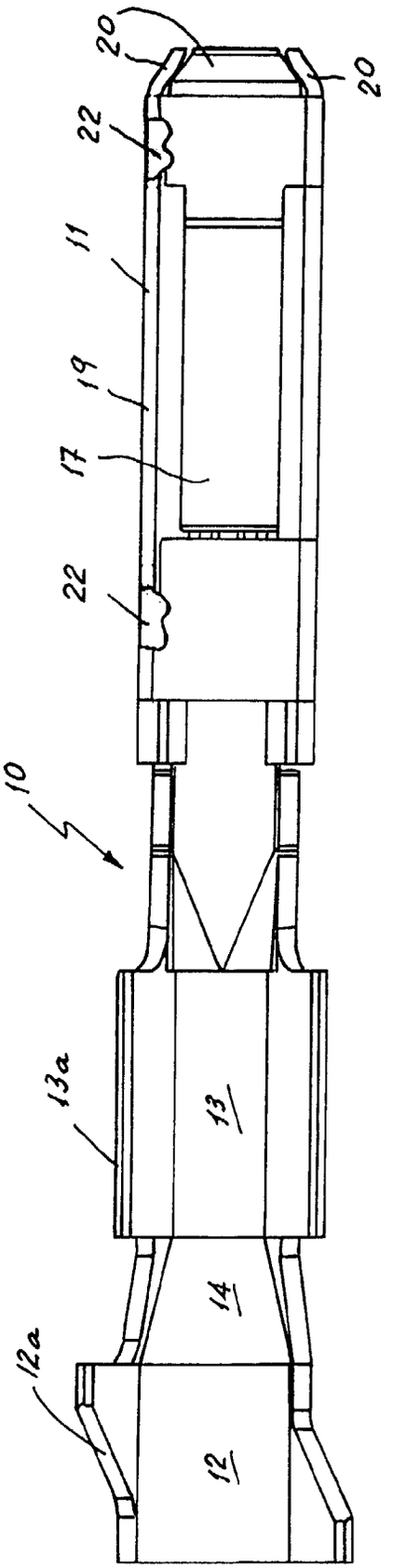

FIG. 1

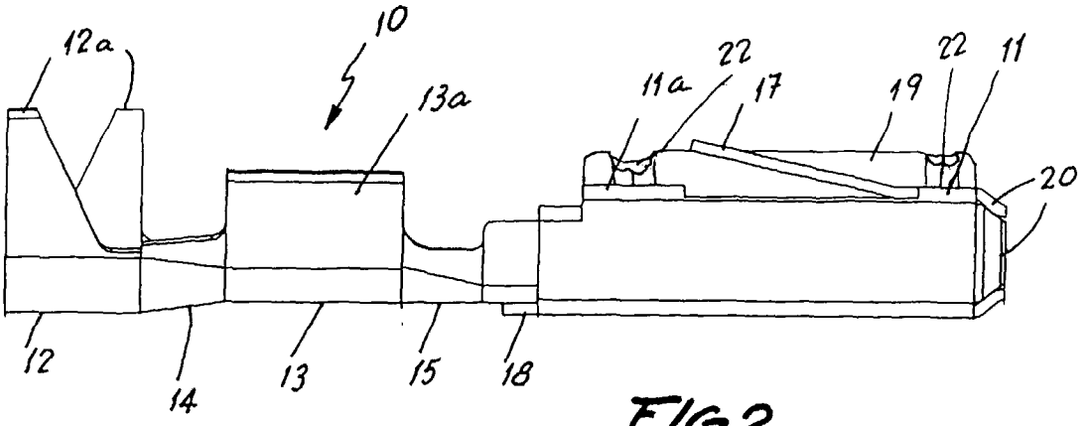

FIG.2

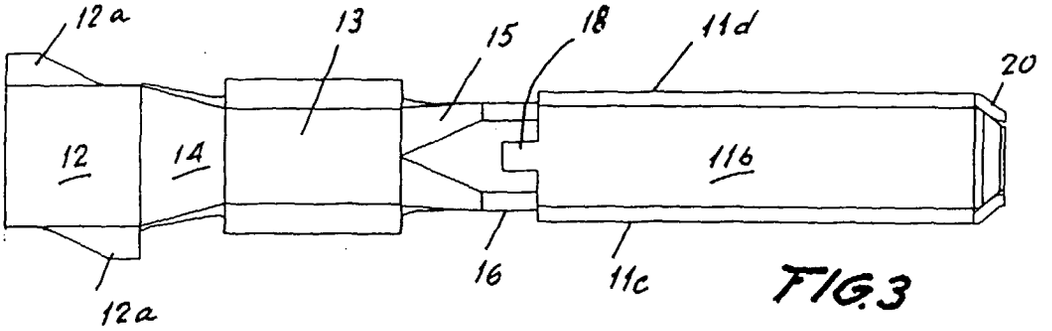

FIG.3

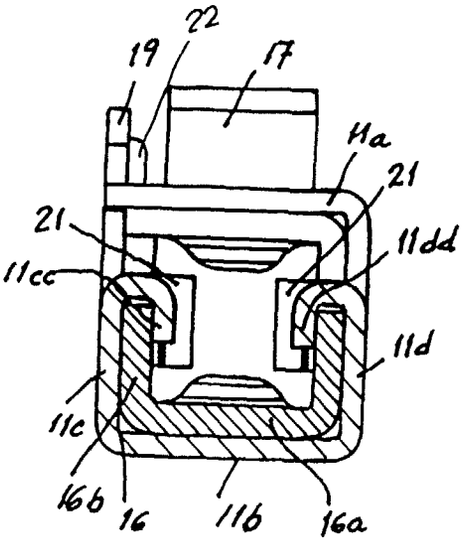

FIG.6

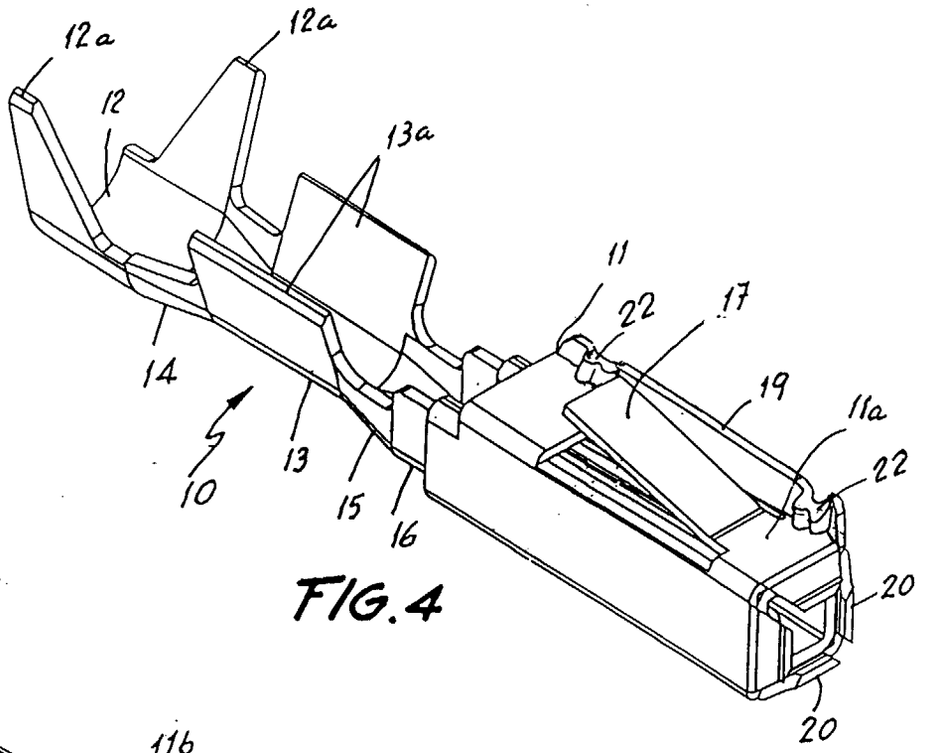
12a
12a
12
13a
11
22
17
19
11a
22
14
13
10
15
16
20
20

FIG. 4

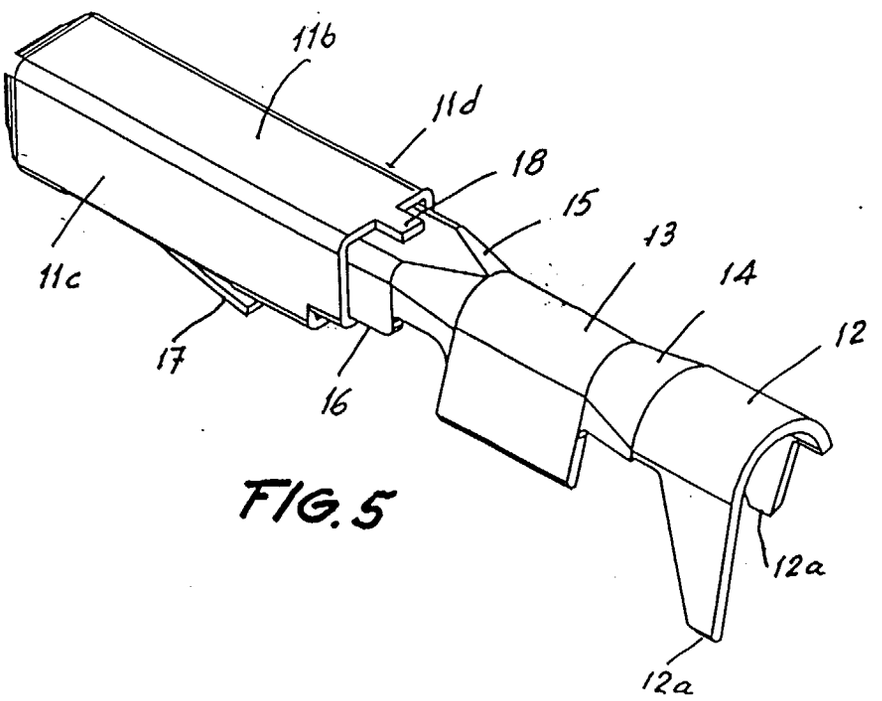
11b
11d
18
15
13
14
12
11c
17
16
12a
12a

FIG. 5