HANDLE-EXPANDER ELEMENT FOR A RACKET HANDLE, A SET OF HANDLE-EXPANDER ELEMENTS, A HANDLE-EXPANDER, AND A CORRESPONDING METHOD

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ABSTRACT
A handle-expander element (1) for the handle (2) of a sports racket, in particular a tennis racket is made up of an elongate body (10) presenting an “inside” face for applying along the handle of the racket and an “outside” face for holding by the player, each of the inside and outside faces of the elongate body (10) being made up of a plurality of longitudinal facets. The handle-expander element includes at least one tongue (113, 115) extending an end facet (13, 15) that extends transversely to the axis of the end facet. A set of handle-expander elements, a handle-expander, and a method of modifying the diameter size of the corresponding handle are also described.
The present invention relates in general manner to handle-expander elements for the handle of a sports racket, in particular a racket for tennis, badminton, or squash. The invention also relates to a handle-expander, to a set of handle-expander elements, and to a corresponding method of putting the handle-expander into place on a racket handle.

Commercially-available tennis rackets present firstly various handle sizes, conventionally numbered 0 to 6 on the European market and 4 inches (\text{*}) to 4\text{\1/2} inches on the American market, for handles of different diameters. Furthermore, there are handles of lengths that are different for different models of racket. Nevertheless, once a player has found a suitable model of racket, it can happen that the racket does not have a handle diameter that is large enough relative to the size of the player’s hand.

One solution consists in increasing the diameter of the racket handle by applying a heat-shrink sheath of given thicknesses thereon. Nevertheless, such a solution does not enable the size of the racket handle to be changed by more than one size. Furthermore, if the user were to apply two heat-shrink sheaths onto a racket handle, that would present the drawback of rounding the longitudinal facets and bends of the handle, which degrades the user’s grasp on the handle.

Handle-expander elements are also known in the prior art, as described in documents U.S. Pat. No. 5,193,246 and FR 2 403 172, which elements are used to form a flexible and elastic cover around the handle, but not to enable the starting size of the racket handle to be matched to the desired size. The handle-expander elements described in documents FR 2 909 005 and U.S. Pat. No. 6,213,902 are designed to present a swelling of a specific shape for optimizing the positions when the fingers bear against the handle and not for modifying the starting diameter of the racket handle in order to obtain the desired size. Such handle-expander elements do not make it possible for a player who seeks to increase the starting size of the handle of a racket for the purpose of reaching a given handle size, to make use of such handle-expander elements in which the size of the inside face and the thickness do not necessarily correspond respectively to the starting size of the handle and to the desired increase in size for said handle.

In order to solve that problem, the Applicant has designed a handle-expander element for the handle of a sports racket, in particular a tennis racket, as described in the French patent application No. 09/05042 filed on Oct. 21, 2009. Said handle-expander element is in the form of an elongate body presenting an inside face for application along the racket handle and an outside face for holding by the player. Said element is suitable, on its own or in co-operation with another, similar element, for forming a covering of generally tubular shape around the racket handle. Each inside and outside face of said elongate body is made up of a plurality of longitudinal facets separated from one another by longitudinally-elongating ridges or bends. At the end of the handle-expander element that is to cover the flared end of the handle, known as its “butt”, the facets are extended by tongues that are designed to press against the corresponding facets of said handle butt.

Such a handle-expander element serves to increase the diameter of the handle of a racket by one or more sizes, while nevertheless enabling said handle of the racket to be properly held in the hand, i.e. without rounding the longitudinal facets and bends of the handle.

Nevertheless, the Applicant has found in testing that when one or more above-defined handle-expander elements is/are applied to the handle of a racket, a space appears between the outside free longitudinal edge of a tongue that extends a first end facet of said handle-expander element and the outside free longitudinal edge of a tongue that extends a second end facet of said handle-expander element, or of another handle-expander element depending on the handle-expander embodiment used, as described below. The term “end facet” is used to designate each facet of a handle-expander element that defines a free longitudinal edge of the handle-expander element.

Second end facet corresponds to the end facet opposite from the first end facet when said handle-expander is constituted by a single handle-expander element and is generally in the form of a longitudinally split cylinder. Such spaces also appear between the outer longitudinal edges of tongues extending the end facets of the handle-expander element and the outer longitudinal edges of the tongues extending the end facets of another, similar handle-expander element when the handle-expander is made up of a plurality of handle-expander elements, in particular half-shells, each for covering half of the peripheral surface of the handle.

Thus, even after a self-gripping strip has been applied around the handle-expander element applied on the racket handle, a player can feel the presence of a gap in the space defined between the outer longitudinal edges of the tongues that extend the end facets in the end portion of the handle known as its “butt”. This sensation of a gap is very distracting for the player.

An object of the present invention is thus to propose a novel handle-expander element that enables the starting size of a racket handle to be increased so as to obtain a desired size for said handle, while improving the grasp of a player’s hand on the racket.

In particular, an object of the invention is to provide a handle-expander element serving to reduce the player’s sensation of a gap at the butt of the racket handle once the handle-expander element(s) has/have been applied on the racket handle.

To this end, the invention provides a handle-expander element for a handle of a sports racket, in particular a tennis racket,

said element is made up of an elongate body presenting an “inside” face for applying along the racket handle and an “outside” face for holding by the player, said element being suitable, on its own or in co-operation with another similar element, for forming a cover of generally tubular shape around the racket handle,

each inside and outside face of said elongate body being made up of a plurality of longitudinal facets that are separated from one another by longitudinal edges, the element being characterized in that:

each of the longitudinal edges of said elongate body is interrupted in the vicinity of at least one of the two opposite end portions of said elongate body in order to form a slit extending to the end edge of said end portion, said slits defining between them a plurality of tongues extending the facets of the elongate body; and
in that, at at least one of the end portions of said body, at least one, and preferably each, of the tongues that extend the "end" facets defining the free longitudinal edges of said handle-expander element, extends on either side of the plane that contains the longitudinal free edge of the corresponding end facet and that is perpendicular to the plane of said end facet.

Such a configuration of one or more tongues extending the end facets of the handle-expander element makes it possible to fill in at least in part the space defined between said tongues extending the handle-expander element(s) that face one another in the applied state of the handle-expander element(s) on the racket handle. Thus, the player no longer feels the presence of a gap in the end portion of the handle forming the butt of the racket, thus leaving the player free to play without distraction and with the assurance that the racket handle can be grasped properly in the hand.

The handle-expander element(s) of the invention thus enable the size of the racket handle to be matched to the size of the player's hand in a manner that is reliable and comfortable for the player. This makes rackets easier to retail since handle size can be adapted by using said handle-expander element(s).

According to an advantageous characteristic of the invention, said tongue extending one or each end facet presents, in projection onto the plane of the corresponding end facet, an outer longitudinal edge that forms a non-zero angle relative to the free longitudinal edge of the corresponding end facet, said angle preferably being equal to 174.29°.

Advantageously, each of the longitudinal bends of the elongate body is interrupted in the vicinity of both opposite end portions of said elongate body in order to form slits extending to the end edges of said end portions.

Said slits enable the end portions of the handle-expander element to match the flared shapes of the end portions of the handle as formed respectively by the handle butt and by the portion of the handle that connects with the frame of the racket.

According to an advantageous characteristic of the invention, said tongues are formed by interrupting the longitudinal bends of the elongate body in the "base" end portion of said elongate body that is to cover the free end portion of the handle, referred to as the handle butt; and each of said tongues presents a fold line extending transversely relative to the bends.

According to an advantageous characteristic of the invention, the end portion of the elongate body that is to cover the end portion of the handle that is connected to the handle frame includes separable zones enabling the length of said element to be matched to the handle.

Thus, a given handle-expander element may be applied to racket handles of different lengths, with the length of said handle-expander element being adapted to the selected racket handle by means of the separable zones.

According to an advantageous characteristic of the invention, said element is in the general shape of a cylinder on an octagonal base that is truncated by a midplane containing the longitudinal axis of said cylinder and the middles of two opposite sides of said octagonal base.

Therefore, in other words, each handle-expander element is in the form of a half-shell suitable for covering and fitting closely over substantially one-half of the handle. Thus, using two handle-expander elements enables the handle to be sandwiched between the two half-shells that are turned to face each other, thus making it easy for its thickness to be increased by using two handle-expander elements that are similar, and preferably identical.

Such a design for handle-expander elements provides great ease in putting the handle-expander into place since it suffices to apply the two half-shells on either side of the handle so that the handle is sandwiched between them.

According to an advantageous characteristic of the invention, at least some of the facets of the handle-expander element present openings serving to lighten the weight of said handle-expander element.

The invention also provides a handle-expander for a sports racket, in particular for a tennis racket, the handle-expander being characterized in that it is made up of two handle-expander elements as described above, said handle-expander elements forming two half-shells for applying along the racket handle in such a manner as to sandwich said handle between the two half-shells.

The invention also provides a set of handle-expander elements comprising handle-expander elements as described above, said set comprising a range of different sizes for the inside face of the handle-expander element, and also, for at least one value in said range of inside face sizes and preferably for each of said values, a range of different thicknesses for the handle-expander element.

The invention also provides a method of modifying the size of the handle of a sports racket, in particular of a tennis racket, said method being characterized in that it comprises the following steps:

1. for a racket handle of a given size, referred to as the "starting" size, selecting a pair of handle-expander elements from a set of handle-expander elements as described above, which set comprises handle-expander elements in the form of half-shells, the facets of the inside face of each selected element enabling said element to fit closely to the corresponding facets of the handle, and the thickness thereof enabling the desired size for the racket handle to be obtained when the handle-expander elements are applied against the racket handle;

2. applying each handle-expander element along the handle in such a manner as to sandwich said handle between the two half-shells formed by said handle-expander elements; and

3. helically winding at least one strip of material around the covering formed by the two half-shells, which strip, referred to as a "grip", is made of a material that provides the player with a firm grasp on the racket.

The invention can be better understood on reading the following description of embodiments given with reference to the accompanying drawings, in which:

FIG. 1 is an exploded view of a racket handle and two handle-expander elements of the invention;

FIG. 2 is a side view of the handle and of the handle-expander elements of FIG. 1; and

FIG. 3 is a perspective view of the two FIG. 1 handle-expander elements in the assembled state on the racket handle.

With reference to the figures, and as mentioned above, the invention relates to a handle-expander element for a handle 2 of a sports racket, in particular for a tennis racket. The racket handle presents a wall with facets. In other words, the handle presents a cross-section that is polygonal.

Said element 1 is made up of a plate-type elongate body 10 presenting a generally concave "inside" face for
applying along the racket handle, and a generally convex “outside” face for being held by the player.

As shown in FIGS. 1 and 2, said element 1 is suitable, on its own or in co-operation with another similar element 1’, for forming a cover of generally tubular shape around the racket handle 2, which cover is optionally continuous.

Each inside and outside face of said elongate body 10 is made up of a plurality of longitudinal facets 101, 102, 103, 104, and 105 that are separated from one another by longitudinal bends 11, 12, and 14. Said longitudinal facets are mutually parallel such that the facets are generally rectangular in shape.

The facets of the handle-expander element are plane, with the exception of the end portions of the handle-expander element, portions formed by tongues as described in detail below, and may be flared so as to fit over the free end of the handle, referred to as the butt, and also over the connecting zone between the handle and the frame of the racket. Those zones of the facets that are to have the fingers of a player holding the racket pressed against them are themselves plane.

Such a configuration for the handle-expander element enables the inside face of said handle-expander element to act, preferably in co-operation with another handle-expander element that is similar or identical, to cover and fit closely over a portion of the handle of the racket, preferably the semi-circumference of the peripheral structure of the handle that likewise presents a plurality of facets separated from one another by longitudinal bends. Such a handle-expander element also enables the outside face of said handle-expander element to present facets and bends for enhancing a good grasp on the racket via its handle-expander. In other words, the outside face of the handle-expander element reproduces the longitudinal facets and bends of the handle when the handle is covered by said handle-expander element.

In the example shown in the figures, all of the facets of a handle-expander element extend generally in cross-section around a circular arc of 180° so as to form a half-shell. One handle-expander element 1 serves to cover and fit closely over substantially half of the circumference of the peripheral surface of the racket handle, and another, substantially identical or similar handle-expander element 1’ serves to cover and fit closely over the remaining half of the circumference of the handle.

When in the applied state on the two opposite peripheral longitudinal faces of the handle, the two half-shells may optionally come into touching contact with each other. When the two half-shells are applied against the handle without making touching contact, said half-shells facing towards each other form a sleeve that is longitudinally split in a mid-plane.

In the example shown in the figures, each handle-expander element 1, 1’ is generally in the form of a cylinder on an octagonal base that is truncated by a midplane containing the longitudinal axis of said cylinder and passing via the middles of two opposite sides of said octagonal base. In other words, said element 1 or 1’ presents five facets in each of its inside and outside faces. Each handle-expander element presents a plane of symmetry containing the longitudinal axis of said body and orthogonal to the central facet of the inside and outside faces of said body.

In the example shown in the figures, the facets defining the free longitudinal edges of each of the half-shells are narrower, such that each of two of the faces of the handle 2 are covered at least in part by a longitudinal edge facet of each of the handle-expander elements 1, 1’ (see FIG. 2). Thus, the use of two handle-expander elements enables the eight facets of the body of the racket handle to be closely covered.

In a variant, provision may be made for the handle-expander element to be shaped so as to extend around the longitudinal axis of the handle over an angular sector of more than 180°. Thus, provision may be made for the handle-expander element itself to present a split tubular shape over its entire length so as to enable it to be mounted on a racket handle. To this end, the handle-expander element should be designed to be sufficiently flexible, at least along one of its longitudinal bends, to enable the handle-expander element to open up its longitudinal split so as to enable the handle to be inserted into the handle-expander.

Each of the longitudinal facets 11, 12, 14 of the body of said handle-expander element is interrupted in the vicinity of the end portion 10A of said elongate body, referred to as its “base”, that is to cover the free end portion 20A of the handle, referred to as the “butt” of the handle, so as to form a slit extending to the end edge of said base. Each slit opens out into said end edge. In other words, each of the facets is extended in the proximity of at least one of the two opposite end portions 10A and 10B of said elongate body by means of a tongue.

Said slits formed along said base 10A define between them a plurality of tongues 111, 112, 113, 114, and 115, each presenting a fold line extending transversely to the slits so as to enable said tongues to be folded outwards relative to the elongate body 10 in order to increase the radius of the opening of said handle-expander element at said base 10A so that the shape of said base matches the outwardly-flared shape of the handle butt 20A.

The length of the slits in the elongate body 10 is substantially equal to the length of said butt-forming portion of the handle that flares towards the free end of the racket handle.

The two facets 103 and 105 of the handle-expander element that define the two free longitudinal edges 13 and 15 of said handle-expander element are referred to as end facets.

When the racket handle-expander is made as a single handle-expander element in the general shape of a longitudinally-split cylinder, said end facets are designed to press against the same facet of the racket handle when the handle-expander element is applied onto said handle, but without overlapping, the free longitudinal edges defined by said end facets extending so as to face each other.

In the example shown in the figures, when the handle-expander of the racket is made up of a plurality of similar handle-expander elements 1, 1’, in particular of two half-shells, each presenting the general shape of a semi-cylinder, each end facet 103, 105 of a handle-expander element 1, 1’ is designed to be positioned on a portion of a facet of the handle 2 facing an end facet 105, 103 of another, similar handle-expander element 1’, 1 that overlies the other portion of said facet of the handle 2.

At the end portion 10A of the handle-expander element 1, 1’ that is to cover the butt of the handle 2, at least one and preferably each of the tongues 113, 115 extending the end facets 103, 105 lie on either side of the plane containing the free longitudinal edge of the corresponding end facet 103, 105 and extending perpendicularly to the plane of said end facet 103, 105.

In other words, at least one and preferably each of the tongues 113, 115 extending the end facets 103, 105 of the
handle-expander element 1, 1' comprises at least a portion that projects from or over the free longitudinal edge 13, 15 of the corresponding end facet in a direction that is transverse relative to said free longitudinal edge of the end facet, or indeed in a direction that is transverse relative to the longitudinal axis of said end facet. Said tongue 113, 115 extending an end facet 103, 105 thus extends transversely relative to said end facet 103, 105 towards the outside of the handle-expander element 1, 1' so as to be capable of reducing the space defined between the tongues extending the end facets of the handle-expander element(s) when the handle-expander element(s) is/are in the applied state on the racket handle.

[0059] In each of these configurations, said tongue 113, 115 extending one or each end facet serves to occupy at least part of the gap visible to the user over the butt of the handle covered by the handle-expander element(s).

[0060] In particular, as shown in FIG. 2, and in projection onto the plane of the corresponding end facet, said tongue 113, 115 extending each end facet 103, 105 presents an outer longitudinal edge 113', 115' that forms a non-zero angle ALPHAt relative to the free longitudinal edge 13, 15 of the corresponding end facet 103, 105, which angle is preferably 174.29°.

[0061] Said tongues are also inclined or designed to be inclined, e.g. by folding, relative to the planes of the facets that they extend so as to obtain a set of tongues presenting a flared shape for fitting over the swollen shape of the butt of the racket handle.

[0062] Each of the longitudinal bends 11, 12, 14 in said elongate body 10 is likewise interrupted in the vicinity of the opposite end portion 103 of said elongate body in order to form a respective slit extending to the end edge of said end portion 103 that is to cover the portion coupling the handle to the frame of the racket. Each slit opens out into said end edge.

[0063] The slits enable the end portion 103 of the handle-expander element to fit over the end of the handle in the coupling zone that tends to flare towards the racket frame. Said slits also form zones for assisting in separating separable zones of said end portion 103, as described below.

[0064] As shown in FIGS. 1 and 3, the end portion 103 of the elongate body that is to cover the end portion 203 of the handle that is connected to the racket frame includes separable zones 40 enabling the length of said element to be matched to the handle. The separable zones 40 provided in the end portion 103 of the handle-expander element enable the length of the handle-expander to be matched to the length of the racket handle and thus enable a single model of handle-expander to be used with racket handles of various lengths.

[0065] The separable zones 40 are spaced apart along the axis of the handle-expander element. Each separable zone extends over the entire radial extent of the outside face of the handle-expander element.

[0066] Said zones 40 can be separated by folding said zones along a line extending transversely relative to the slits. Said lines are formed by scoring grooves that are spaced apart from one another along the longitudinal axis of said handle-expander element and that are mutually parallel. The grooves 41 are obtained by reducing the thickness of the elongate body 10 in the desired zones of the end portion 103.

[0067] Said element 1 is made as a single piece, preferably of polyolefin, advantageously of polypropylene.

[0068] Each handle-expander element presents a thickness that lies preferably in the range 0.5 millimeters (mm) to 2.5 mm, as described below. It is thus possible to make provision for making handle-expander elements of different dimensions, in particular of different thicknesses, depending on the increase in size that is desired for the initial racket handle.

[0069] Each handle-expander element presents a certain amount of stiffness enabling the bends and the facets of said handle-expander elements to hold reliably on the racket handle, thus enabling the player to hold the handle fitted with the handle-expander firmly with a good grasp on the racket.

[0070] As shown in the figures, the facets 101, 102, 103, 104, and 105 of the handle-expander element 1 present openings 100 serving to reduce the weight of said handle-expander elements 1, 1'. Said openings are formed along the facets of the handle-expander element and they are spaced apart longitudinally from one another.

[0071] The invention also provides a set of handle-expander elements comprising handle-expander elements as described above. Such a set has a range of different sizes for the inside face of the handle-expander element 1, 1' with each value of said range corresponding to a starting size for a racket handle. In addition, for at least one of the values in said range of inside face sizes, and preferably for each of said values, the set of handle-expander elements also includes a range of different thicknesses, corresponding to the desired increases in size relative to the starting size of the racket handle.

[0072] Provision may also be made for each set to include a range of different thicknesses of handle-expander element 1, 1', and for at least one value of said range of thicknesses, and preferably for each value, a range of different inside face sizes.

[0073] The size of the handle corresponds to the dimensions of the cross-section of the racket handle. It is considered that the size of the handle corresponds substantially to the mean diameter of the circle in which the octagonal section of the handle is inscribed.

[0074] In similar manner, the size of the inside face of the handle-expander element corresponds to the dimensions of said inside face in cross-section, and it is assumed that said size of the inside face corresponds substantially to the diameter of the circle that is inscribed in said inside face of the handle-expander element.

[0075] Thus, as a simplification, it is possible to consider that the size of the handle corresponds to the mean diameter of the handle, and that the size of the inside face of a handle-expander element that is in the form of a half-shell corresponds to the mean inside radius of said handle-expander element.

[0076] The handle-expander element is selected as a function of the starting mean diameter of the racket handle onto which the handle-expander element is to be applied. The mean inside radius of the selected handle-expander element must correspond substantially to the mean radius of the racket handle onto which the handle-expander element is to be applied.

[0077] As detailed in detail below, the section of the handle-expander element is also a function of the desired increase in the diameter of the racket handle.

[0078] The table below gives the thickness of the handle-expander element that should be selected as a function of the starting size and as a function of the value desired for the increase in the size of the handle.
In order to increase the size of the racket handle by a given size number, provision may be made for the handle-expander element that is to be used to be the same for handles of different starting sizes.

Thus, it is possible to fabricate only four types of handle-expander element corresponding to the four different thicknesses in the above table, instead of ten different types of handle-expander.

The method of putting two handle-expander elements into place on a racket handle may be performed as follows.

For a racket handle of given size, referred to as the “starting size”, a pair of handle-expander elements are selected from a set of handle-expander elements 1, 1’, as described above and made up of handle-expander elements that are in the form of half-shells. The selected pair of handle-expander elements have facets on their inside faces that enable said elements to fit closely over the corresponding facets of the racket handle 2, i.e. in which the size of the inside face corresponds to the starting size of the handle, and in which the thickness makes it possible to obtain the size desired for the racket handle when the handle-expander elements are applied against the racket handle.

The racket handle is usually already fitted with a grip, so the grip is removed.

Thereafter, the two half-shells formed by the two elements of the selected handle-expander are positioned on either side of the handle so as to sandwich the handle between the two half-shells with each peripheral half-surface of the handle being covered with a half-shell, merely by applying the half-shell against the handle. For this purpose, the half-shell is brought up against the handle in a direction that is substantially radial (or orthogonal) relative to the longitudinal axis of the handle.

In the state with two half-shells assembled on the handle, the two half-shells define an octagonal cross-section that surrounds the smallest-sized octagon formed by the cross-section of the racket handle.

The tongues 113, 115 extending the end facets 103, 105 of a handle-expander element 1, 1’ co-operate with respective ones of the tongues 115, 113 extending the end facets 105, 103 of the other handle-expander element 1, 1’ so as to form respective V-shapes serving to reduce the size of the uncovered gap at the end of the handle, known as its butt.

The operator covers the two half-shells applied along the handle with a non-slip strip referred to as a “grip” that is wound substantially helically over the two half-shells along said handle and that serves to improve the retention of the two half-shells on the racket handle. Optionally, once the grip has been put into place it is also possible to add an additional strip that is referred to as an “overgrip”.

The present invention is not limited in any way to the embodiments described and shown, and the person skilled in the art will know how to make any variation in accordance with its spirit.

1-10. (canceled)
11. A handle-expander element (1) for a handle (2) of a sports racket, in particular a tennis racket, said element (1) is made up of an elongate body (10) presenting an “inside” face for applying along the racket handle and an “outside” face for holding by the player, said element (1) being suitable, on its own or in co-operation with another similar element (1’), for forming a cover of generally tubular shape around the racket handle (2),

each inside and outside face of said elongate body (10) being made up of a plurality of longitudinal facets (101, 102, 103, 104, 105) that are separated from one another by longitudinal bends (11, 12, 14), the element being characterized in that:

each of the longitudinal bends (11, 12, 14) of said elongate body (10) is interrupted in the vicinity of at least the end portion (10A) of said elongate body that is to cover the free end portion (20A) of the handle, referred to as the “butts” of the handle, in order to form a slit extending to the end edge of said end portion (10A), said slits defining between them a plurality of tongues (111, 112, 113, 114, 115) extending the facets of the elongate body; and

in that at least one of the end portions of said body, at least one, and preferably each, of the tongues (113, 115) that extend the “end” facets (103, 105) defining the free longitudinal edges (13, 15) of said handle-expander element, extends on either side of the plane containing the longitudinal free edge (13, 15) of the corresponding end facet and that is perpendicular to the plane of said end facet (103, 105).

12. The element according to claim 11, characterized in that said tongue (113, 115) extending one or each end facet (103, 105) presents, in projection onto the plane of the corresponding end facet, an outer longitudinal edge that forms a non-zero angle relative to the free longitudinal edge (13, 15) of the corresponding end facet, said angle preferably being equal to 174.29°.

13. The element according to claim 11, characterized in that each of the longitudinal bends (11, 12, 14) of the elongate body (10) is interrupted in the vicinity of both opposite end portions (10A; 10B) of said elongate body in order to form slits extending to the end edges of said end portions (10A; 10B).

14. The element according to claim 11, characterized in that:

said tongues (111, 112, 113, 114, 115) are formed by interrupting the longitudinal bends (11, 12, 14) of the elongate body (10) in the “base” end portion (10A) of said elongate body that is to cover the free end portion (20A) of the handle, referred to as the handle butt; and

in that each of said tongues (111, 112, 113, 114, 115) presents a fold line extending transversely relative to the bends (11, 12, 14).

15. The element according to claim 11, characterized in that the end portion (10B) of the elongate body that is to cover the end portion (10B) of the handle that is connected to the
handle frame includes separable zones (40) enabling the length of said element to be matched to the handle.

16. The element according to claim 11, characterized in that it is in the general shape of a cylinder on an octagonal base that is truncated by a midplane containing the longitudinal axis of said cylinder and the middles of two opposite sides of said octagonal base.

17. The element according to claim 11, characterized in that at least some of the facets (101, 102, 103, 104, 105) of the handle-expander element (1, 1') present openings (100) serving to lighten the weight of said handle-expander element (1, 1').

18. A handle-expander for a sports racket, in particular for a tennis racket, the handle-expander being characterized in that it is made up of two handle-expander elements (1, 1') in accordance with claim 11, said handle-expander elements (1, 1') forming two half-shells for applying along the racket handle (2) in such a manner as to sandwich said handle (2) between the two half-shells.

19. A set of handle-expander elements comprising handle-expander elements according to claim 11, characterized in that said set comprises a range of different thicknesses for the handle-expander element, enabling the size of the racket handle to be increased to the desired size, and in that in order to increase the racket handle by a given number of sizes, the handle-expander element of thickness that corresponds to said desired increase in size, is applicable to different starting sizes.

20. A set of handle-expander elements comprising handle-expander elements according to claim 11, said set comprising a range of different sizes for the inside face of the handle-expander element (1, 1'), and also, for at least one value in said range of inside face sizes and preferably for each of said values, a range of different thicknesses for the handle-expander element (1, 1').

21. A method of modifying the size of the handle of a sports racket, in particular of a tennis racket, said method being characterized in that it comprises the following steps:

for a racket handle (2) of a given size, referred to as the "starting" size, selecting a pair of handle-expander elements (1, 1') from a set of handle-expander elements in accordance with claim 18, which set comprises handle-expander elements in the form of half-shells, the facets of the inside face of each selected element (1, 1') enabling said element to fit closely to the corresponding facets of the handle (2), and the thickness thereof enabling the desired size for the racket handle (2) to be obtained when the handle-expander elements (1, 1') are applied against the racket handle (2);

applying each handle-expander element (1, 1') along the handle (2) in such a manner as to sandwich said handle between the two half-shells formed by said handle-expander elements (1, 1'); and

helically winding at least one strip of material around the covering formed by the two half-shells, which strip, referred to as a "grip", is made of a material that provides the player with a firm grasp on the racket.

22. The element according to claim 12, characterized in that each of the longitudinal bends (11, 12, 14) of the elongate body (10) is interrupted in the vicinity of both opposite end portions (10A; 10B) of said elongate body in order to form slits extending to the end edges of said end portions (10A; 10B).

23. The element according to claim 12, characterized in that:

said tongues (111, 112, 113, 114, 115) are formed by interrupting the longitudinal bends (11, 12, 14) of the elongate body (10) in the "base" end portion (10A) of said elongate body that is to cover the free end portion (20A) of the handle, referred to as the handle butt; and in that each of said tongues (111, 112, 113, 114, 115) presents a fold line extending transversely relative to the bends (11, 12, 14).

24. The element according to claim 12, characterized in that the end portion (10B) of the elongate body that is to cover the end portion (20B) of the handle that is connected to the handle frame includes separable zones (40) enabling the length of said element to be matched to the handle.

25. The element according to claim 12, characterized in that it is in the general shape of a cylinder on an octagonal base that is truncated by a midplane containing the longitudinal axis of said cylinder and the middles of two opposite sides of said octagonal base.

26. The element according to claim 12, characterized in that at least some of the facets (101, 102, 103, 104, 105) of the handle-expander element (1, 1') present openings (100) serving to lighten the weight of said handle-expander element (1, 1').

27. A method of modifying the size of the handle of a sports racket, in particular of a tennis racket, said method being characterized in that it comprises the following steps:

for a racket handle (2) of a given size, referred to as the "starting" size, selecting a pair of handle-expander elements (1, 1') from a set of handle-expander elements in accordance with claim 19, which set comprises handle-expander elements in the form of half-shells, the facets of the inside face of each selected element (1, 1') enabling said element to fit closely to the corresponding facets of the handle (2), and the thickness thereof enabling the desired size for the racket handle (2) to be obtained when the handle-expander elements (1, 1') are applied against the racket handle (2);

applying each handle-expander element (1, 1') along the handle (2) in such a manner as to sandwich said handle between the two half-shells formed by said handle-expander elements (1, 1'); and

helically winding at least one strip of material around the covering formed by the two half-shells, which strip, referred to as a "grip", is made of a material that provides the player with a firm grasp on the racket.

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