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(54) Fencing weapon point assembly

(57) A fencing weapon point assembly (1, 6) for a fencing weapon such as an epee, foil or sabre is provided. At least one of the components of the weapon point assembly is made from a metal or metal alloy having different density to steel.

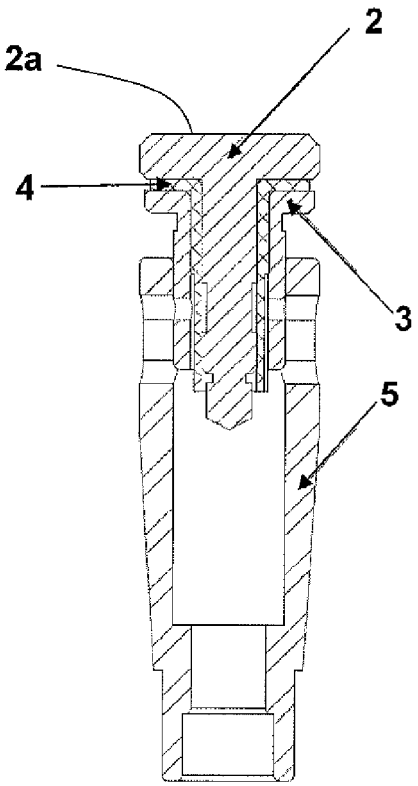

Fig. 2

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Description

Field of the Invention

[0001] The present invention relates to fencing weapons and in particular the point assembly for the various fencing weapon types; namely epee, foil and sabre.

Background of the Invention

[0002] The sport of fencing has developed over the years from sword duelling, which in the past was used to settle disagreements between parties. Typically parties involved in sword duelling would know who the winner was as they would be the last person standing.

[0003] The sport of fencing has developed with the aim of rewarding skilled swordsmanship without the need for actual bloodshed. Modern fencing weapons are therefore provided with an electro-mechanical system that monitors when a competitor has scored a 'hit' on their opponent.

[0004] An important element of the electro-mechanical system is the weapon point assembly, which is attached to the end of the blade of the weapon. Various designs of weapon point assembly exist, and the manner in which they register when a 'hit' is scored can also vary.

[0005] By way of example, a weapon point assembly for an epee blade comprises a base which is attachable to the end of a fencing weapon, usually by way of a screw thread. Within the base is provided a pair of electrical contacts each of which is connected to a wire that runs down the blade of the weapon. The electrical contacts are separated by a small gap, thereby providing an open circuit.

[0006] A point tip is retained within a barrel which is in turn slideably retained within the base in such a way that the tip presents a face out of the end of the weapon point. A contact closing means, usually in the form of a small spring, is provided in association with the point tip so that when the point tip, and thereby the barrel, is pushed in (as occurs when the face of the tip hits a surface) the closing means bridges the gap between the electrical contacts and closes the circuit.

[0007] The point tip, and thus the associated contact closing means also, is urged away from the electrical contacts by a spring. Depending on the type of fencing blade used the resistance of the spring can vary.

[0008] Typically as it is the action of the point tip making contact with the opponent's body that is crucial in registering a 'hit' the swordsman's ability to control the movement and placement of the point tip can be vital.

[0009] One way in which weapon manufacturers have sought to improve the control a swordsman has over the point tip has been to modify the cross-section of the blade, thereby making the blade stiffer or more flexible to control how the point moves when the weapon is moved in quick movements.

Summary of the Invention

[0010] The present invention seeks to provide improved weapon point assemblies for use on the various types of fencing weapons. Currently the main component parts of a weapon point assembly for fencing weapon are made from plated mild steel or stainless steel.

[0011] The present invention provides a weapon point assembly for a fencing weapon, **characterized in that** at least one component of the assembly is made of a metal or metal alloy having a different density to steel.

[0012] Although the fencing weapon point assemblies that are currently in use are not very heavy, the effect of their weight is magnified because it is located at the end of the weapon, which is a relatively long distance away from the weapon handle. The weapon point assembly's weight can therefore make a significant difference to the way a fencing weapon feels and performs for the athlete.

[0013] The main component parts of the weapon point assembly are the weapon point tip, the weapon point barrel, and the weapon point base. As these contribute to the majority of the mass of the weapon point assembly it is these components that have the most noticeable effect when they are replaced with equivalent components of differing density.

[0014] By varying the density of the material used to make one or more of the weapon point assembly component parts it is possible to vary the weight of the assembly, which it has been found provide additional benefits to the swordsman.

[0015] Preferably said at least one component may be made of a metal or metal alloy that is less dense than steel. It has been discovered that by reducing the density of the material used to make the point tip of the fencing weapon it is possible to reduce the weighting effect felt at the handle and thus improve the performance of the weapon. In this way it is possible for to provide a weapon which enables the swordsman to have greater control over movement and placement of the weapon point assembly.

[0016] Suitable materials for the lighter fencing weapon point assembly may include titanium, titanium alloys, and all hardenable aluminium alloys. Other suitable metals/alloys will be appreciated upon consideration of, amongst other factors, their density relative to steel.

[0017] Alternatively said at least one component may be made of a metal or metal alloy that is more dense than steel. It has been discovered that by increasing the density of the material used to make the main components of the weapon point assembly of the fencing weapon it is possible to increase the momentum that can be generated at the weapon point assembly. In this way a swordsman can generate a 'whip' effect, very much akin to that achieved by an angler during casting. This 'whip' effect is considered a particular effective tactic during duelling and as such is advantageous.

[0018] Suitable materials for the heavier fencing weapon point assembly may include tungsten and tungsten

carbide. Other suitable metals/alloys will be appreciated upon consideration of, amongst other factors, their density relative to steel.

[0019] In another aspect of the invention a fencing weapon comprising the weapon point assembly of the present invention is provided.

Brief Description of the Drawings

[0020] Preferred embodiments of the present invention will now be described with reference to the drawings, wherein:

Figure 1 shows an epee point assembly for a fencing weapon;
Figure 2 shows the epee point assembly of figure 1 in cross-section along lines A-A; and
Figure 3 shows a foil point assembly for a fencing weapon;
Figure 4 shows the foil point assembly of figure 3 in cross-section along lines A-A.

Detailed Description of the Invention

[0021] The weapon point assembly of a fencing weapon can take a number of different forms, which will be appreciated by the person skilled in the art, and it is envisaged that the present invention is generally applicable. However it order to explain the present invention in more detail two examples of weapon point assemblies are provided.

[0022] It is appreciated that, whilst the language used to refer to the component parts of the weapon point assemblies may vary within the technology field, the main component parts of the weapon point assembly are known.

[0023] Figures 1 and 2 show an epee weapon point assembly 1 whereas figures 3 and 4 show a foil weapon point assembly 6.

[0024] Referring first to figures 1 and 2, the main body of the weapon point assembly 1 is provided by the base 5. The base 5 can be screwed on to the end of a fencing weapon by way of the internal screw thread, although other suitable attachment means will be appreciated.

[0025] The base 5, which is shown with a portion cut away for the sake of clarity, receives the main components of the weapon point assembly 1 in such a way that the end face of the point tip 2a projects out of the end of the base 5.

[0026] The point tip 2 is mounted within the barrel 3, which is in turn slideably mounted within the base 5. The weapon point tip 2 and the weapon point base 5 are electrically isolated from one another by insulation means 4.

[0027] A spring (not shown) is provided within the base 5 to urge the barrel 3 and the tip 2 to project from the base 5. When the tip 2 in pressed upon a surface (e.g. an opponent's body) the barrel and tip can slide into the base 5. Once the point tip 3 is taken off the surface the spring 5 ensures that the point tip 3 returns to its original position. The resistance provided by the spring ensures that a strike to an opponent must have a certain force before a 'hit' is registered.

[0028] As will be appreciated electromechanical means are also provided within the weapon point assembly to translate any movement of the tip and the barrel into the base as a 'hit'.

[0029] Referring now to the foil point assembly 6 shown in figures 3 and 4, it can be seen that the main body of the weapon point assembly 6 is provided by a base 10. The base 10 can be screwed on to the end of a fencing weapon by way of the internal screw thread, although other suitable attachment means will be appreciated.

[0030] The base 10, which is shown with a portion cut away for the sake of clarity, receives the main components of the weapon point assembly 6 in such a way that the end face of the point tip 7a projects out of the end of the base 10.

[0031] The point tip 7 is mounted within the barrel 8, which is in turn slideably mounted within the base 10. The weapon point tip 7 and the weapon point base are electrically isolated from one another by insulation means 9.

[0032] It will be understood that, as with the epee point assembly 1, the foil point assembly 6 comprises additional electromechanical parts which enable it translate a contact at the point tip 7 in to a 'hit' signal. Such additional parts, the operation of which is known in the art, will not be discussed in any detail here.

[0033] As can be seen from figures 2 and 4, it is the tip 2, 7; the barrel 3, 8; and the base 5, 10 which form the main components parts of the weapon point assemblies 1, 6, not least in terms of the mass they contribute to the total weight of the assembly.

[0034] It is therefore envisaged that varying the density of the materials used to make these three main components will have the greatest impact on the weight of the weapon point assembly. However it is appreciated that other weapon point assembly designs may have alternative component parts of relative mass. It is appreciated that the replacement of those components with materials of differing density to steel may also provide the benefits of the present invention.

[0035] It is also envisaged that, in addition to the epee and foil weapon point assemblies described herein, sabre weapon points may also benefit from being made from alternative materials. It is appreciated that, whilst sabre weapon points (e.g. "dummy points") do not have the same component parts as the epee and foil weapon point assemblies, varying the weight of the sabre weapon tip is considered particularly desirable for the reasons also identified above.

Claims

1. A weapon point assembly for a fencing weapon,

characterized in that at least one component of the assembly is made of a metal or metal alloy having a different density to steel.

2. The weapon point assembly of claim 1, wherein the at least one component is selected from the group containing weapon point tip, weapon point barrel, and weapon point base.

3. The weapon point assembly of claim 1 or 2, wherein said at least one component is made of a metal or metal alloy that is less dense than steel.

4. The weapon point assembly of claim 3, wherein the metal or metal alloy is selected from the group containing titanium, titanium alloys and all hardenable aluminium alloys.

5. The weapon point assembly of claim 1 or 2, wherein said at least one component is made of a metal or metal alloy that is more dense than steel.

6. The weapon point assembly of claim 5, wherein the metal or metal alloy is selected from the group containing tungsten and tungsten carbide.

7. A fencing weapon comprising the point tip or weapon point of any of the preceding claims.

8. A weapon point assembly for a fencing weapon substantially as described, with reference to the drawings, hereinbefore.

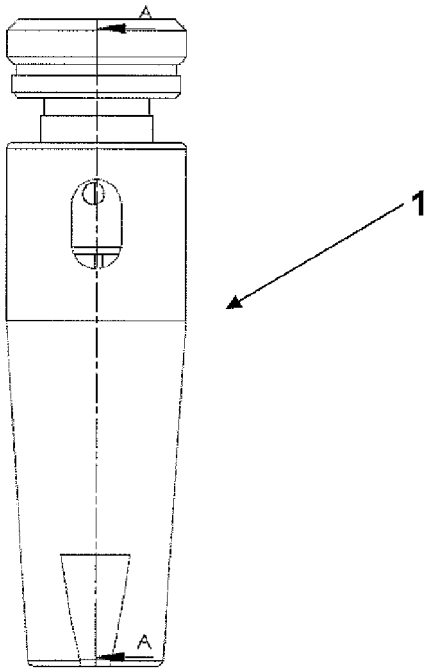

Fig. 1

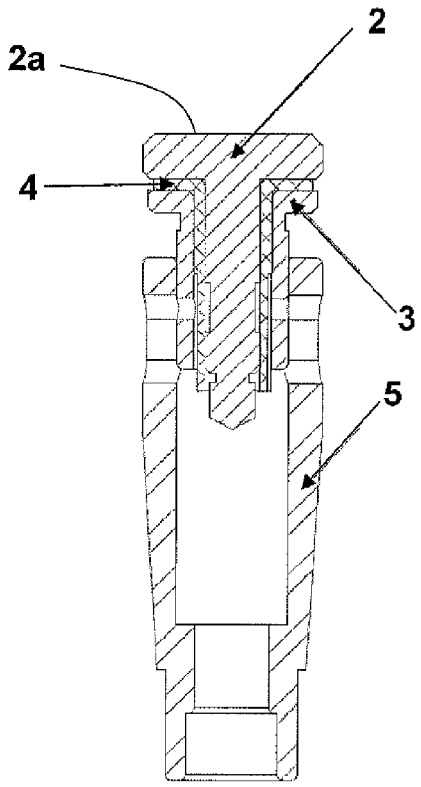

Fig. 2

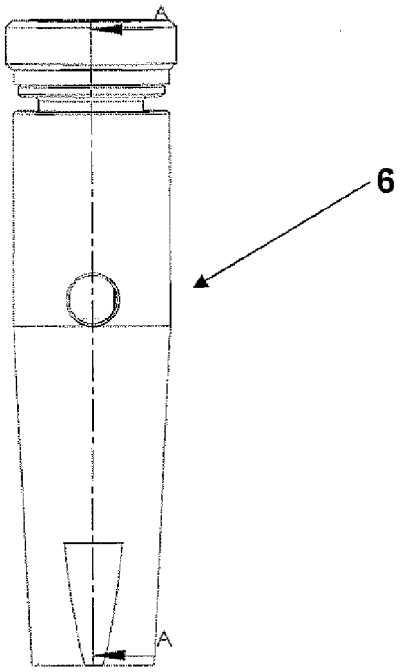

Fig. 3

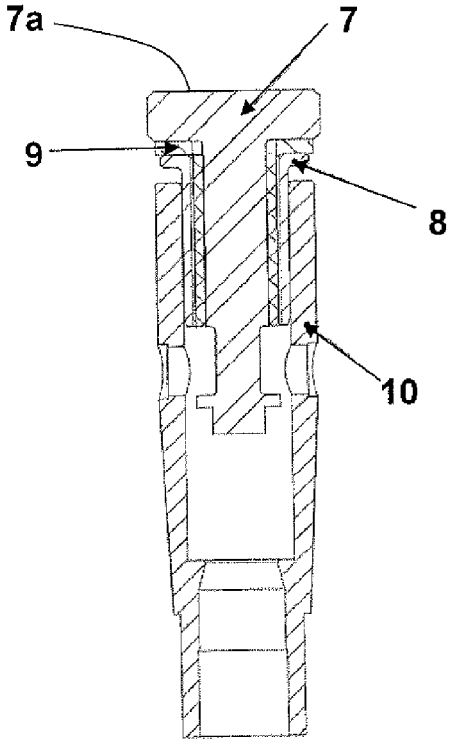

Fig. 4