

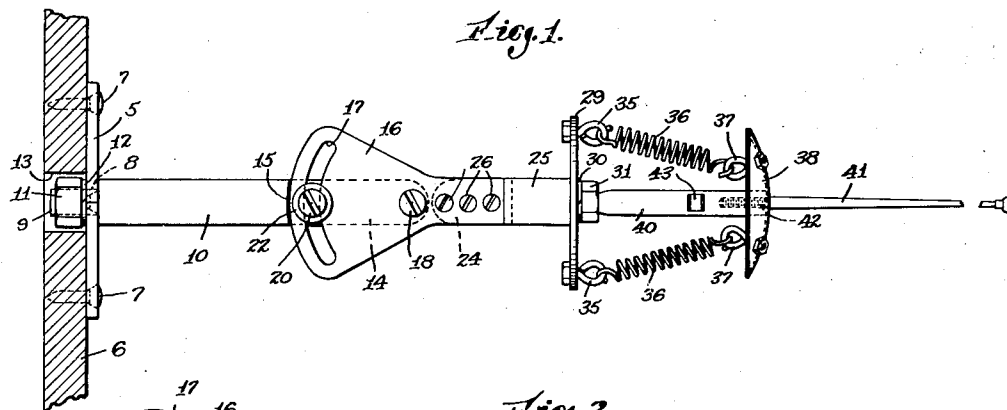
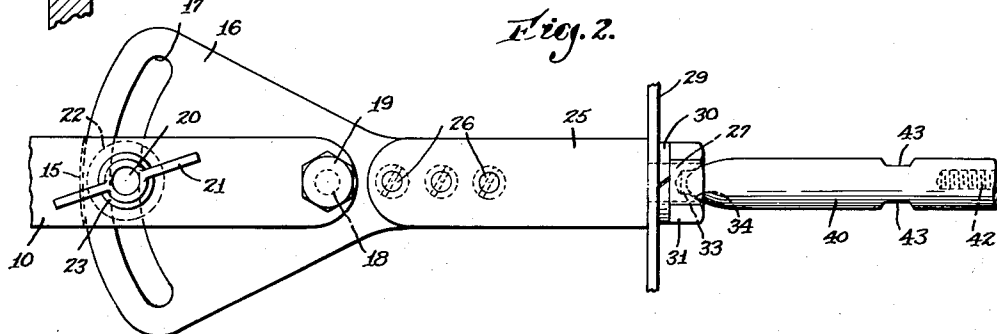
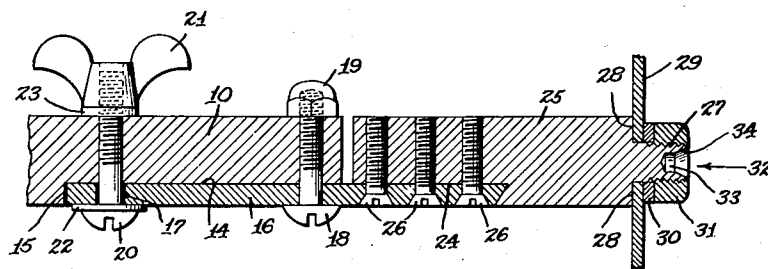
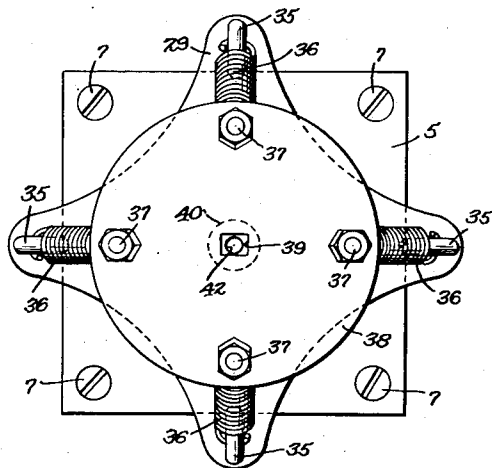
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EXERCISING APPARATUS

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EXERCISING APPARATUS

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13 Claims. (Cl. 272-57)

The present invention relates to exercising apparatus and more particularly to a device for teaching fencing so that a fencer may become proficient in the proper handling of his foil.

It is recognized that it has been proposed heretofore to provide devices designed for teaching fencers the proper movements and positions for their foils, but these devices have not been of a suitable form from a structural point of view or else have been made with a lack of understanding of the needs which the device must fill if it is to be of any use. These devices have not been practicable and have not met with success.

As is well known to those skilled in the art of fencing, accurate and delicate control of a foil by the fingers and wrist is of the greatest importance. For example a parry of an opponent's blade is properly made only when the defending fencer keeps his point always directed at his opponent's body while executing the parry, and this ability to keep one's point always "in line" is acquired only by patient practice. The difficulty is enhanced by the fact that a fencer's chest and abdominal region do not comprise a unitary target for attack, but instead comprise a target divided into eight parts or regions. As each region necessitates a separate direction of attack by an opponent, it follows that the hand and wrist of a defending fencer must take eight different defensive positions. Moreover, at least two kinds of parries—direct and counter—are usually executed in each of these positions, so that the art of defence is a very complicated art.

Heretofore, because there has been no practicable mechanical device which may be used, the only way that foil control in the various positions has been learned has been by having fencers pair off, one lunging and holding his arm and foil in the eight positions of direct attack, or else standing on guard, and the other defending himself in eight different positions, and in two or more ways in each of those positions, or executing feints, disengages, etc., while his opponent remains passive. Such a method of learning fencing is ideal for the defending fencer, but is tiresome for the opponent who merely holds out his foil so that the other may practice.

Accordingly, it is the principal object of the present invention to provide a device which is a mechanical substitute for the fencer who lends his services so that another may practice.

Broadly considered, such a device may take any form found expedient or suitable for its purpose. It is preferred, however, to provide a device having, in combination, a base support, a post extending therefrom, an arm provided with means for adjustably securing it to the post, and means carried by the arm for supporting a foil blade. With such a construction the practicing fencer may point the supported foil blade at his body in any offensive position, and because the device is tireless, the fencer may practice as long as he pleases.

Since an opponent, when holding a foil, offers resistance to the movement of the foil of an attacking fencer, it is desirable that the mechanical substitute for an opponent be provided with means for simulating the varying pressure of blade on blade.

Accordingly, it is a further object of the present invention to provide a mechanical foil support adapted to normally hold a foil in any one of a plurality of positions with means offering a yielding resistance to any force tending to move the foil out of a given position.

To the accomplishment of these objects and of such others as may hereinafter appear, the various features of the present invention reside in certain devices, combinations, and arrangements of parts hereinafter described and then set forth broadly and in detail in the appended claims, possessing advantages which will be readily apparent to those skilled in this art.

The various features of the present invention will be readily understood from an inspection of the accompanying drawing illustrating the best form of the invention at present known to the inventor, in which,

Figure 1 is a view in left side elevation, showing the device mounted and provided with a foil blade;

Fig. 2 is an enlarged detail view in side elevation showing the side opposite the sector;

Fig. 3 is an enlarged detail view in sectional plan of the central portion of the device; and

Fig. 4 is a view of the device in front elevation with the foil blade removed.

Referring to the accompanying drawing, the illustrated embodiment of the present invention is provided with a base member or plate 5 (Figs. 1 and 4) which may be secured to a wall or supporting surface 6 by suitable means such as screws 7. The plate 5 is provided with an opening 8 through which passes the threaded reduced end 9 of a post 10 which is secured to the plate 5 by means of a nut 11 and a lock washer 12. When this particular post mounting construction is used, the wall or supporting surface 6 is provided with an orifice 13 for receiving the nut 11. As shown in Fig. 1, the post 10 projects forwardly

from the wall 6 and is rigidly secured to the plate 5.

Referring to Fig. 3, one side of the forward portion of the post 10 is provided with a recessed face 14 which terminates rearwardly in an arcuate wall 15 (Fig. 1). A sector 16 provided with an arcuate slot 17 is pivotally mounted on the recessed face 14 by means of a bolt 18 passing through the post 10 adjacent its free end and provided with a cap nut 19. A slight line of clearance is preferably left between the sector and the wall 15. So that the sector 16 may be secured to the post 10 in a variety of positions a bolt 20 passes through the slot 17 and the post 10 and is provided with a wing nut 21. Flat washers 22 and 23 are preferably placed beneath the head of the bolt 20 and the wing nut 21, respectively, as is usual in constructions of this kind.

As shown in Fig. 3, the unslotted end of the sector 16 projects forwardly beyond the end of the post 10, and is secured to a recessed face 24 on one side of an arm 25 by means of machine screws 26. To prevent any possible play between the sector 16 and the arm 25 when so secured together, the forward end of the sector may be bevelled in the direction of the recessed face 24 in abutment with a corresponding bevel in the arm 25. As shown in Fig. 2, the adjacent ends of the post 10 and the arm 25 are rounded and are slightly spaced apart so that there will be no interference with a swinging of the sector 16 when the wing nut 21 is loosened.

The function of the arm 25 is to carry a foil blade support so that by reason of the adjustable sector 16 the foil blade may be held in any position in which a fencer wishes to practice. For this purpose the forward end of the arm 25 is provided with a threaded reduced portion 27 forming a shoulder 28, and abutting this shoulder is a plate 29 provided with a central opening through which the reduced end 27 of the arm 25 passes. As shown in Fig. 3 the reduced end 27 projects forwardly a sufficient distance to receive a lock washer 30 and a nut 31. At the extremity of the reduced end 27 is an integral socket 32 which may be conveniently formed by first drilling a passage 33 and then reaming the walls thereof to form countersunk sides 34. The rim of the socket 32 is flush with the end of the nut 31, and with this construction the nut 31 both secures the plate 29 to the arm 25 and reinforces the walls of the socket 32.

Secured to the plate 29 are four eyebolts 35 (Figs. 1 and 4) through which the rearward ends of four coil springs 36 are respectively clipped. The opposite ends of the springs 36 are clipped, respectively, to four rearwardly projecting eyebolts 37 secured to a guard 38 (Figs. 1 and 4). The term "guard" is used because the member 38 corresponds to the guard of a foil and is provided with the usual blade handle opening 39. Interposed between the guard 38 and the socket 32 is a pin 40 (Fig. 1) which serves the double function of holding a foil blade 41 and of tensioning the springs 36. As shown in Fig. 2, one end of the pin 40 is rounded and tapered to fit in the socket 32, while the other end is provided with a threaded passage 42 adapted to register with the opening 39 in the guard 38, when the device is assembled, for receiving the foil blade 41. In adapting a foil blade to fit the present invention, the greater portion of the handle portion of the blade is cut off and the remainder is threaded to fit the passage 42 in the pin 40. Oppositely disposed notches 43

on the pin 40 permit a tightening of the foil blade in the pin by means of a wrench.

It will be apparent that the plate 29, the springs 36, the guard 38, and the pin 40, when assembled on the arm 25, constitute a foil blade support that is a resilient universal joint, the resiliency being achieved by reason of the pin 40 being sufficiently long to stretch the springs 36 and thus tension them. Because of the length of the pin 40 it will be found that the easiest way to assemble the blade support for use is first to pass the handle of the blade 41 through the opening 39 of the guard 38 and then thread the pin 40 on the blade. The springs 36 are next attached to the guard and an adjacent pair of springs are attached to the plate 29. The tapered end of the pin 40 is then inserted in the socket 32, whereupon the remaining springs are attached to the plate 29 to complete the assembly.

As a matter of practical construction, the length of the illustrated embodiment of the present invention from the plate 5 to the front of the guard 38 is preferably about sixteen inches, or about the distance from a person's elbow to the end of his fist. With such dimensions the guard 38 is spaced from the wall 6 the same distance that a fencer holds the guard of his foil spaced from his body, and actual fencing conditions are thereby simulated. For the same reason, if the wall 6 is provided with a plastron (not shown) ripostes can be practiced as actually used in competition.

Referring now to Fig. 1, it will be apparent that by reason of the adjustability of the sector 16, the blade 41 may be secured in any attacking position desired. By adjusting the sector to cause the blade 41 to slant slightly below the horizontal, a fencer may stand before the device so as to practice both direct and counter parries in the positions of seconde, quinte, septime, and octave. By causing the blade 41 to slant slightly above the horizontal, parries in the positions of prime, tierce, quarte, and sixte may be executed. With the blade 41 held horizontally as shown in Fig. 1, binds may be practiced. Likewise, the blade 41 may be positioned as desired for practicing grazes, beats, presses, feints, disengages, and combinations thereof. In all these movements as well as in parrying, the springs 36 not only cause the blade 41 to offer the yielding pressure given by an opponent's blade in competition but also serve to return the blade 41 to the position it occupied before being moved by the practicing fencer's blade. Since the post 10 and the arm 25 correspond to the human forearm, and since the plate 29, the springs 36, the guard 38, and the pin 40 correspond in position and in action to the human wrist, it will be seen that the device disclosed closely approximates the human opponent against whom it has heretofore been necessary for a fencer to practice.

Throughout this specification I have referred to the blade 41 as being the blade of a foil. It will be apparent to any fencer, however, that the illustrated embodiment of the present invention is equally well adapted for use with an epee blade and, to a limited extent, with a sabre blade. I therefore wish to be understood as including these three types of blades in any reference herein to a foil blade.

The illustrated embodiment of the present invention is considered the best form thereof because it is a simple and economical construction from a manufacturing point of view. However, nothing herein explained is to be interpreted as

limiting the present invention in the scope of its application to use in connection with the particular construction or the particular mode of operation, or both, selected for the purposes of illustration and explanation. Various changes may be made in the details of construction. For example, instead of providing the plate 5 with the opening 8, the plate may be provided with a collar into which the post 10 may be fixed. Such a construction eliminates the nut 11 and the reduced end 9 and also the aperture 13 in the wall or supporting surface 6. An alternative construction would be to cast the plate 5 and post 10 in one piece. The post 10 and arm 25 need not be provided with the recessed surfaces 14 and 24, respectively, because the sector 16 could be placed against the post and arm, it not being necessary that the outer face of the sector be flush therewith as shown. Similarly the sector 16 could be provided with an arcuate series of holes instead of the slot 17. The arm 25 and the sector 16 could be cast in one piece, or the arm, sector, and plate 29 could be so cast. In this latter case merely countersinking a depression in the plate 29 would serve the purpose of the socket 32. The plate 29 need not have the shape shown in Fig. 4 since a member of any other shape which would support the springs 36 would do as well. Similarly the guard 38 need not be convex, but may be of any other suitable shape. It will also be apparent that a ball and socket joint provided with a lock is a substitute for the sector construction shown. In these and other ways the particulars of construction disclosed may be modified within the skill of the artisan without departing from the true scope of the actual invention, characterizing features of which are set forth in the following claims by the intentional use of generic terms and expressions inclusive of various modifications.

What is claimed as new, is:

1. In an exercising apparatus, the combination with a base member, a post extending therefrom, and an arm provided with means for adjustably securing it to the post, of resilient means carried by the arm for supporting a foil blade by its handle portion.

2. In an exercising apparatus, the combination with a base member, a post extending therefrom, and resilient means for supporting a foil blade by its handle portion, of a connection joining the post and the blade supporting means for holding the latter in any one of a plurality of positions.

3. In an exercising apparatus, the combination with a base member, a post extending therefrom, and means for resiliently supporting a foil blade, of a member carried by the blade supporting means pivotally connected to the post for holding the blade supporting means in any one of a plurality of positions.

4. In an exercising apparatus, the combination with a base member, a post extending therefrom, an arm, and means connecting the post and the arm for holding the latter in any one of a plurality of positions with respect to the post, of a member universally joined to the arm and adapted to receive and support a foil blade.

5. In an exercising apparatus, the combination with a base member, a post extending therefrom, and a sector adjustably secured to the post, of means connected to the sector for resiliently supporting a foil blade by its handle portion.

6. In an exercising apparatus, the combination with a base member, a post extending therefrom, and a sector adjustably secured to the post, of

means universally joined to the sector and adapted to receive and support a foil blade.

7. In an exercising apparatus, the combination with a base member, a post extending therefrom, and an arm provided with means for securing it to the post in any one of a plurality of positions, of a resiliently movable support carried by the arm for normally holding a foil blade in a given position with respect to the post and for yieldingly resisting any force tending to move the foil blade out of said position.

8. In an exercising apparatus, the combination with a base member, a post extending therefrom, and an arm adjustably connected to the post, of a support carried by the arm for normally holding a foil blade in a position determined by the arm, said support being resilient to offer a yielding resistance to any force tending to move the foil blade away from the position determined by the arm.

9. In an exercising apparatus, the combination with a base member, a post extending therefrom, a sector adjustably secured to the post, and an arm extending from the sector and movable therewith, of resiliently movable means carried by the arm for supporting a foil blade in any one of a plurality of positions as determined by the sector and for restoring the foil blade to said position when it is moved therefrom.

10. In an exercising apparatus, the combination with a base member, a post extending therefrom, and an arm adjustably connected to the post, of a resiliently movable support carried by the arm for normally holding a foil blade in any one of a plurality of positions and for restoring the foil blade to said position when it is moved therefrom.

11. In an exercising apparatus, the combination with a base member, a post extending therefrom, an arm one end of which is provided with a socket, and means connecting the post and the other end of the arm for holding the arm in any one of a plurality of positions with respect to the post, of means carried by the arm for supporting a foil blade, said means comprising a member abutting the socket end of the arm, a guard, resilient means connecting the abutting member and the guard, and a blade-receiving pin interposed between the socket and the guard for placing the resilient means under tension.

12. In an exercising apparatus, the combination with a base member, a post extending therefrom, an arm one end of which is provided with a socket, and a sector connected to the arm and adjustably secured to the post, of means carried by the arm for supporting a foil blade, said means comprising a member abutting the socket end of the arm, a guard, springs connecting the abutting member and the guard, and a blade-receiving pin interposed between the socket and the guard for placing the springs under tension.

13. In an exercising apparatus, the combination with a base member adapted to be mounted on a wall, a post extending therefrom so as to project outwardly from the wall when the base member is mounted thereon, and a foil blade support comprising a blade receiving pin, a socket for receiving one end of the pin, and means for resiliently holding the pin end in the socket, of means for connecting the support to the free end of the outwardly extending post, said post, support, and connecting means approximating in length the human forearm and fist.