United States Patent [19]

Eiger

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[45] **June 19, 1973**

[54] **GOLF PRACTICE DEVICE**

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[52] **U.S. Cl.** ..... **273/194 B**
[51] **Int. Cl.** **A63b 69/36**
[58] **Field of Search** 273/26, 186, 194, 273/183, 171, 193; 272/84

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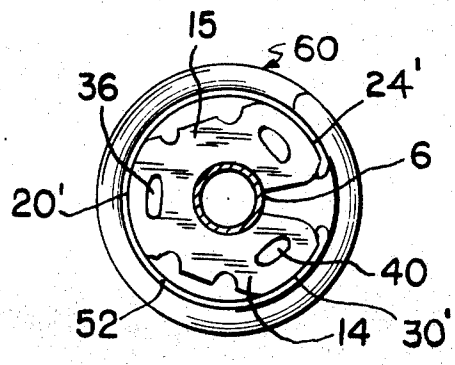
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[57] **ABSTRACT**

A golf practice and/or trainer device detachably locked to the shaft of a golf club to selectively weight the club including a gripping member of elastomeric material having a bifurcated construction for snap-action insertion around the club shaft and a clamping member slidably disposed around the gripping member and dimensioned for resiliently deforming the gripping member so that the gripping and clamping members are locked, as a unit, on the club shaft. In one form, the gripping member has a plurality of passageways disposed therein for increasing the deformability thereof, and a resilient shield is disposed between the gripping and clamping members to provide a bearing surface to facilitate assembly and disassembly of said parts.

11 Claims, 7 Drawing Figures



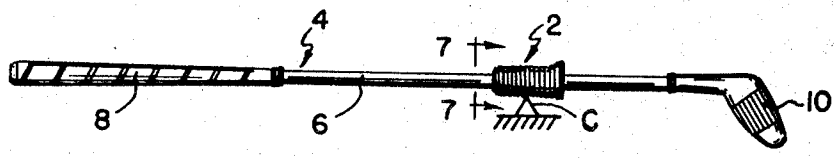


FIG.1

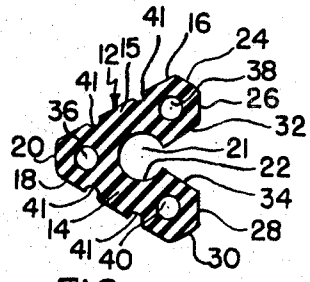


FIG.3

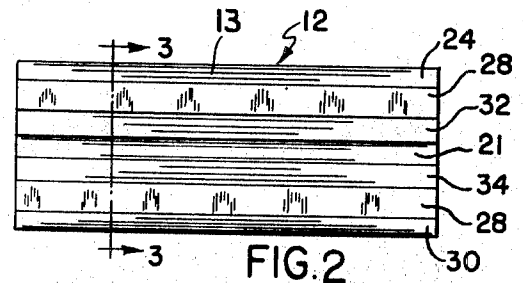


FIG.2

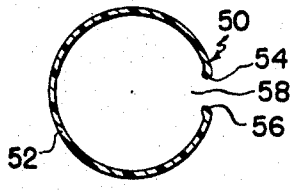


FIG.5

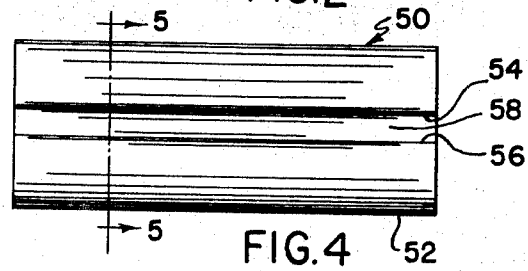


FIG.4

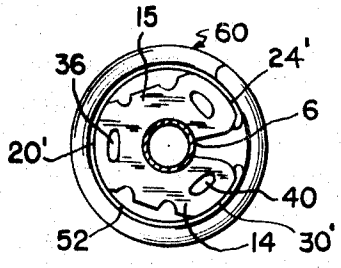


FIG.7

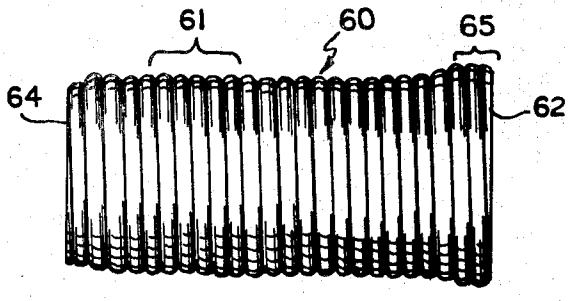


FIG.6

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GOLF PRACTICE DEVICE

BACKGROUND OF THE INVENTION

This invention relates to sports equipment and more particularly to that type of equipment employed in the game of golf. Specifically, the present invention relates to a golf practice and/or trainer device which is constructed and arranged to add weight to a golf club without disturbing the balance or "feel' of the club during the normal swinging movement thereof. As with almost any sport, golf should be appoached with a relatively loose muscle condition and without general rigidity in the body. Exercise with a golf club, particularly with weight added thereto, provides an excellent way to "limber up"20 one's muscles. A few swings with a weighted device will make the club feel lighter when actual play begins and gives an advantage to the golfer like that obtained by baseball players swinging two bats, for example.

The invention described herein contemplates the novel construction of a device constructed and arranged to add weight to a golf club without destroying the balance of the club. The device comprises a flexible gripping means, and a clamping means which deformably secures the gripping means into friction gripping engagement around the club shaft for holding the parts in attached relation to the shaft during normal swinging movement of the club. In practice, when the device of the present invention is secured on the club shaft at the center of mass of the club, the club is weighted for use, but still retains its "feel" since the balance of the club is not impaired or destroyed by reason of being weighted in accordance with the principles of the present invention.

SUMMARY OF THE INVENTION

A golf practice and/or trainer device comprising, a weight-like body for snap-action attachment to the shaft of a golf club adapted for selectively weighting the club when disposed substantially at the center of gravity thereof. The body includes an inner bifurcated gripping member made of flexible material having a central channel adapted to receive a portion of the club shaft upon snap-action attachment therewith; and an outer clamping member of coil spring construction adapted to be slid over the club shaft and into engaged encompassing relation around the gripping member for deforming the latter into friction gripping and holding relation around the club shaft to prevent endwise shifting and/or rotational movement of the device in the installed position thereof. In the form shown, a shield member of split, sleeve construction made of antifriction material is disposed intermediate the gripping and clamping members to facilitate sliding insertion of the clamping member over and around the gripping member to insure optimum securement of the latter with respect to the club shaft and to permit ready detachment of the component parts after use of the device.

From the foregoing and following description and accompanying drawings, it will be seen that the present invention provides a new and novel construction for a golf practice and/or trainer device which is of a relatively simple, rugged construction for quick and easy attachment and detachment with respect of the shaft of a golf club. The device of the invention is constructed and arranged to add weight to the club without changing the balance or "feel" of the club and acts to improve the swing and muscle tone of the golfer upon use thereof. Further, the device of the invention effectively weights the club without changing the balance characteristics of the club even though various clubs to which the device is attached have varying weight-to-club head weight ratios. In addition, the device provides a positive detachable securement to the club which retains its dimensional location substantially at the center of gravity of the club and which will not break or loosen even after severe usage thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation view illustrating the golf practice and/or trainer device of the present invention detachably secured to the shaft of a golf club;

FIG. 2 is a side elevation view of the gripping member employed in the device of the invention;

FIG. 3 is a cross-sectional view taken along the line 3—3 of FIG. 2;

FIG. 4 is a side elevation view of the shield member employed in the device of the invention;

FIG. 5 is a cross-sectional view taken along the line 5—5 of FIG. 4;

FIG. 6 is a side elevation view of the clamping member employed in the device of the invention; and

FIG. 7 is a section view taken along line 7—7 of FIG. 1 and showing the gripping, shield and clamping members in assembled relation and in installed position around the shaft of the golf club illustrated in FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring again to the drawings and more particularly to FIG. 1 thereof, there is illustrated the golf device of the present invention, designated generally at 2, disposed in attached relation on a golf club 4. As shown, the device 2 is disposed around the shaft 6 of the club between the handle or handgrip portion 8 of the club and the club head 10. The position of the device 2 on the shaft 6 will vary with the balance of the club or shaft-to-club head weight ratio. In the invention, the device is placed on the shaft at the center of gravity of the club, as indicated generally at C. For example, this is the point on the shaft 6 of the club where the mass weight above and below such point are equal. In practice, this point is easily established by balancing the club on one's index finger, for example. In other words, when the point on the shaft that corresponds to the center of gravity (i.e. longitudinal), is rested on the index finger, the club will be in lateral balance.

In the invention, the device is of a three-part construction including a gripping member 12, a shield member 50 and a clamping member 60 adapted for generally concentric and interfitting relationship with one another. When installed, the component parts provide a composite structure (FIG. 7) which is held in unitary engaged relation around the club shaft 6 at the center of gravity of the club, as best seen in FIG. 1.

As best seen in FIGS. 2 and 3 of the drawings, the gripping member 12 includes an elongated, generally prismatic body 13 of a polygonal, such as triangular, configuration in transverse cross section. The body 13 is of a bifurcated constructed defined by a pair of wing sections 14 and 15 (FIG. 3) which have outer planar surfaces 16 and 18 which converge onto a generally flat end surface 20. In the form shown, each wing section

is provided with inclined end surfaces **24, 26,** and **28, 30** at the end remote from the end surface **20** with the surfaces **24** and **30** being generally parallel with respect to the side surfaces **18** and **16,** respectively. Also, the surfaces **26** and **28** are disposed in the same general plane with respect to one another and extend generally parallel to the end surface **20** and hence, extend generally parallel with respect to the longitudinal central axis of the body **13** along the length thereof.

In the form shown, the wing sections **14** and **15** also include convergently tapered surfaces **32** and **34** which extend generally parallel to the side surfaces **16** and **18,** but which terminate or communicate with an inlet opening **21** which, in turn, communicates throughout its length with a longitudinally extending bore or channel **22** of cylindrical construction. Preferably, the channel **22** has a diameter less than that of the club shaft **6** with the transverse distance between the terminal ends of the surfaces **32** and **34** adjacent the points of communication with the bore **22** being substantially less than the diameter of the shaft **6** so as to provide a tight interfitting engagement of the confronting surfaces of the bore **22** around the shaft in the installed position thereof.

To improve the gripping and flexing characteristics of the gripping member **12** so as to facilitate its gripping deformation into engagement with the confronting surfaces of the club shaft **6,** a plurality of bores or passageways **36, 38** and **40** are disposed so as to extend longitudinally throughout the length of the body **13.** The passageways are preferably of a cylindrical construction having a diameter substantially less than that of the bore **22** and being disposed generally symmetrically around the bore **22** in a generally triangular pattern, as best seen in FIG. **3.** As shown, the passageways are disposed radially of the bore **22** and are spaced generally equidistant with respect to the longitudinal central axis of the body **13** or with respect to the axis of the bore **22.** To provide further improved flexibility characteristics, the outer side surfaces **16** and **18** of the wing sections **14** and **15** may each be provided with a pair of concave grooves or recesses, such as **41,** which may extend throughout the length of the body **13.** In the form shown, the recesses **41** of each pair are disposed on the side surfaces **16** and **18** generally between the associated passageways **36, 38** and **36, 40** so as to provide an optimum bend radius about the apex area which joins the wing sections **14** and **15** together adjacent the end surface **20.** Preferably, the gripping member **12** is made from an elastomeric material, such as rubber, which may have a durometer of **45.** For example, in the invention, the side surfaces **16** and **18** may be inclined at an angle of **30°** with respect to a horizontal plane passing through the center of the bore **22.** Accordingly, the surfaces **32** and **34** are disposed at the same angle to provide a key-way channel-like opening to facilitate sliding insertion of the club shaft **6** therein and into the bore **22,** whereupon, the wing sections **14** and **15** are deformably spread apart upon passage of the transverse dimension of the club shaft through the minimum transverse dimension defined by the key-way so that the confronting surfaces of the bore **22** frictionally engage the corresponding confronting surfaces of the shaft upon resilient return movement of the wing sections to their normal condition.

As best seen in FIGS. **4** and **5,** the shield member **50** is preferably of a cylindrical construction including a relatively thin loop-like body **52.** The body **52** is of a sleeve-like construction having an elongated channel or passageway **58** extending the length thereof. Preferably, the opposed edges defining the channel **58** are provided with bulbous or enlargements **54** and **56** which are turned inwardly toward the center of the body **52** to enhance the holding engagement with respect to the body **13** of the gripping member **12.** In addition, by this arrangement, there is provided maximum strength areas along the confronting marginal edges of the member to maximize the snap-action holding power of the shield member in the installed position around the gripping member **12.**

In the invention, the shield member **50** is preferably made of a resilient polymeric material having elastic memory characteristics. For example, the shield member is preferably made of polystyrene. Moreover, in assembly, the opposed confronting edges **54** and **56** are spread laterally apart to increase the widthwise dimension of the passageways **58** so as to accommodate the maximum transverse width of the gripping member **12** therebetween. Accordingly, due to the elastic memory characteristics of the shield member **50,** the same is held in tight friction engaged relation around the gripping member **12,** as best seen in FIG. **7.**

In the form shown, the shield member **50** has a lesser maximum transverse dimension as compared to the corresponding maximum transverse dimension of the body **13** of the gripping member **12** s4 that the shield member can be yieldably deformed to receive the body **13** so that the passageway **58** is disposed opposite and generally parallel to the key-way in the body **13** of the gripping member **12.** By this arrangement, the outer surface of the sleeve **52** provides a bearing surface adapted to receive in sliding relation the clamping member **60** thereon.

As best seen in FIG. **6,** the clamping member **60** is of an elongated coil-spring construction which includes a plurality of helical turns, as at **61,** disposed in contiguous side-by-side relation throughout the length of the member **60** in the form of a resilient compression spring. In the embodiment shown, the member **60** is of a tapered construction having an open leading end **62** and an open trailing end **64** with a progressively reduced diametric dimension in a direction from the leading end toward the trailing end thereof. Preferably, the diameter of the leading end **62** is greater or substantially the same as the maximum transverse dimension of the body **13** of the gripping member **12** or of the shield member **50** when the latter is mounted over the body **13** of the gripping member **12.** Moreover, the respective coils **61** of the clamping member **60** are of progressively reduced diameter so that the diameter at the trailing end **64** is less than the maximum transverse diameter of the body **13** of the gripping member **12** or of the shield member **50** when mounted thereon. To facilitate insertion of the clamping member **60** over the component parts, the first few turns, as at **65,** of the coils at the leading end may have substantially the same transverse dimension with respect to one another. This provides a flare-like construction which acts as a guide and facilitates insertion of the gripping member **12** mounting the shield member **50** into the full length of the clamping member **60.**

In thee form shown, the coils **61** of the clamping member rather than being of progressively reduced diameter may be of the same diameter for a given length

of the member. For example coils **61** intermediate the ends **62** and **64** may be of the same diameter while the foremost coil at the end **62** can be of an enlarged diameter while the terminal coil at the end **64** can be of a reduced diameter, as aforesaid. Similarly, the first two or three coils, as at **65**, at the end **62** may be of the same diameter, but enlarged with respect to the intermediate coils of the same diameter, as at **61**, with the terminal two or three coils at the end **62** being of the same, but of reduced diameter with respect to the intermediate coils. In essence, however, it is important that the leading end **62** have an enlarged transverse dimension with respect to the trailing end **64** which is of a reduced transverse dimension so that the gripping member **12** can be inserted into the leading end **62** and then be formed into a secured position around the club shaft by the friction bearing force of the trailing end **64** which has a transverse dimension less than the maximum normal transverse dimension of the body **13** of the gripping member **12.** To this end, for example, the clamping member could be of a smooth sleeve-like construction rather than in the form of a coil spring having the aforementioned type of leading, intermediate and trailing end construction. In such case, the member **60** would be of a sleeve-like construction with the end **62** being of a flared bell-mouth construction and with the end **64** having, for example, a restricted inturned marginal flange of lessor diameter as compared to that of the gripping member **12.** In this case, the sleeve would have a uniform diameter throughout its length, except at the ends, as aforesaid.

As to the gripping member **12,** it is to be understood that it could have any external peripheral shape in addition to polygonal, such as circular, or other shapes approaching circular or curved non-circular shape, for example. In addition, the shield member **50** may be pre-mounted with the gripping member **12** and fixedly attached thereto, such as by means of a suitable adhesive material or the like.

In a typical application, the first step is to determine the balance point of the golf club, as at C, of FIG. **1.** The next step is to pre-mount the shield member **50** in engagement over and around the body **13** of the gripping member **12** so that the inturned bulbous edges **54** and **56** of the member **50** are disposed in equispaced relation opposite the key-way of the body **13.** Thus, assembled, the gripping member **12** is then snapped into engagement with the golf shaft **6** so that the latter is disposed within the bore **22** of the body **13.** The clamping member **60** is then inserted, leading end **62** first, over the handle **8** of the club and then slidably moved over the outer confronting surface of the shield member **50** so as to completely cover the same. During such movement, the respective coils of the clamping member **60** act to progressively deform the resilient material of the body **13** of the gripping member and also of the shield member **50.** As best seen in FIG. **7,** the apex end of the body **13** is deformed into a rounded condition, as at **20'**, while the respective end surfaces **24, 26** and **28, 30** of the respective wing sections **14** and **15** are also deformed into a generally rounded condition, as at **24'** and **30'**, so as to assume a generally curved contour corresponding to the interior configuration of the coils defining the clamping member **60.** Thus, installed, the device is now locked securedly to the golf shaft and ready to swing. To remove the device, the foregoing steps are merely repeated in reverse order for attachment of the device to another club or for storage, as desired.

I claim:

1. In combination with a golf club having a head, shaft and handle, a golf practice and/or trainer device detachably locked to and around the shaft and outwardly of the head to selectively weight said club, said device comprising,

an elongated gripping member made from elastomeric material and having a bore extending lengthwise to receive the shaft of the said club therein

said gripping member including a body of bifurcated construction defined by opposed resilient wing sections connected together at one end for yieldable pivotal movement toward and away from one another,

said wing sections extending divergently outwardly from one another and defining an inlet opening extending lengthwise therebetween in communicating relation with respect to said bore to enable snap-action insertion of the shaft of said club into said bore in the installed position thereof,

an elongated hollow clamping member being open at its opposed ends slidably disposed in encompassing relation around said gripping member, and

said clamping member having a minimum transverse dimension which is less than the maximum transverse dimension of said gripping member for resiliently deforming the body of said gripping member and for yieldably pivoting said wing sections inwardly toward the shaft of said club so that the confronting interior surface of said bore frictionally engages the confronting exterior surface of said shaft for locking said gripping and clamping members, as a unit, onto said shaft and outwardly of said head during swinging movement of said golf club.

2. The combination in accordance with claim **1** wherein,

said body is of a polygonal configuration in transverse cross section with said wing sections having generally planar outer surfaces which extend divergently outwardly toward said clamping member, and

said wing sections having generally planar inner surfaces which extend generally parallel with respect to said outer surfaces and which terminate at said bore to provide said inlet opening.

3. The combination in accordance with claim **2** wherein,

the transverse distance between the terminal ends of said inner surfaces adjacent the respective points of communication with said bore is less than the corresponding dimension of the diameter of the shaft of said club.

4. The combination in accordance with claim **1,** including

a resilient shield member having a hollow construction disposed intermediate said gripping and clamping members adapted to provide a bearing surface for slide action shifting movement of said clamping member with respect to said gripping member.

5. The combination in accordance with claim **1,** wherein

the body of said gripping member includes a plurality of passageways extending therethrough outwardly

of said bore to give added deformability to said body.

6. The combination in accordance with claim **4**, wherein

said shield member is of an elongated cylindrical construction having a slit-like opening extending along the length thereof, and

the maximum transverse dimension of said shield member being less than the maximum transverse dimension of said gripping member for snap-action securement of said shield member in encompassing relation around said gripping member.

7. The combination in accordance with claim **1**, wherein

the body of said clamping member is of a hollow construction including a leading end and a trailing end, and

said leading end having a greater maximum transverse dimension as compared to the maximum transverse dimension of said trailing end.

8. The combination in accordance with claim **7**, wherein

the maximum transverse dimension of the trailing end of said clamping member is less than the maximum transverse dimension of said gripping member.

9. The combination in accordance with claim **7**, wherein

the said body of said clamping member is of a hollow coil spring construction having a leading end and a trailing end,

said body being of progressively reduced transverse dimension in a direction from said leading end toward the trailing end, and

the coils of said body being disposed in contiguous engagement with one another throughout the length of said body.

10. The combination in accordance with claim **1**, wherein

the body of said clamping member is of a hollow, sleeve-like construction having a leading end a trailing end,

said leading end having a greater transverse dimension than said gripping member, and

said trailing end having a constricted portion of less transverse dimension than said gripping member.

11. A golf device in accordance with claim **10**, wherein

said leading end includes a flared bell-mouth like opening, and

said trailing end includes an integral inturned marginal flange defining said constricted portion.

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