Feb. 14, 1950 W. REINEKING 2,497,237

PRACTICE TYPE GOLF CLUB

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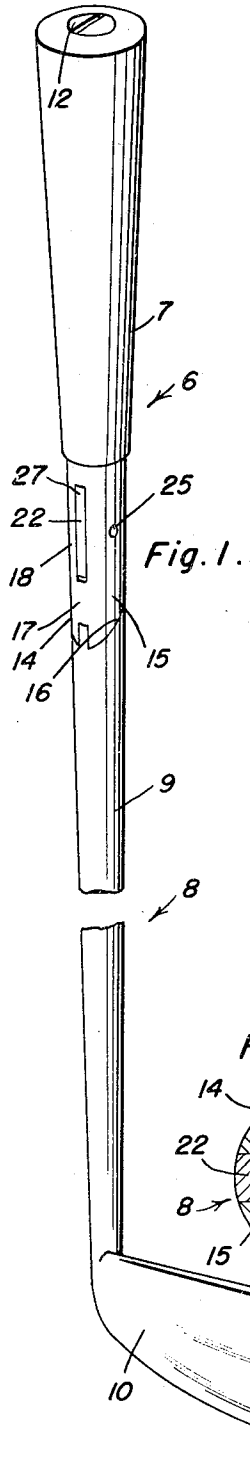


Fig. 1.

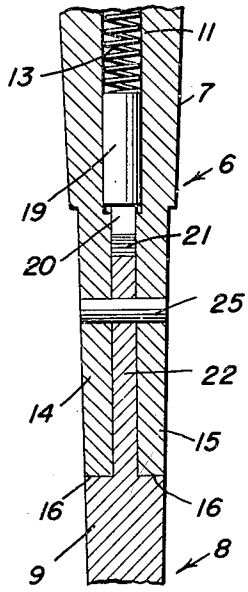


Fig. 3.

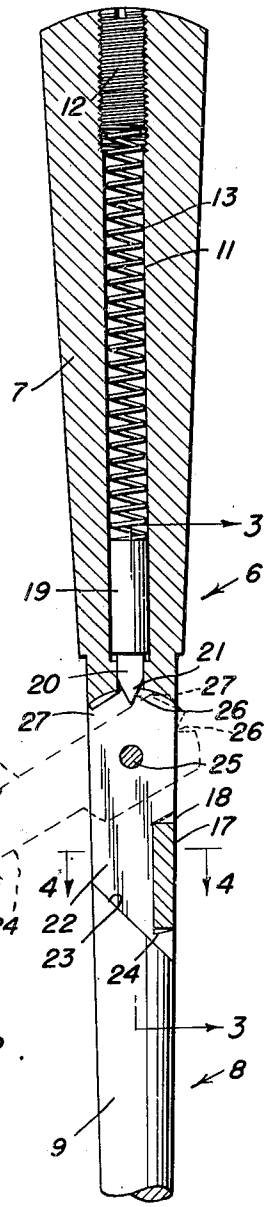


Fig. 2.

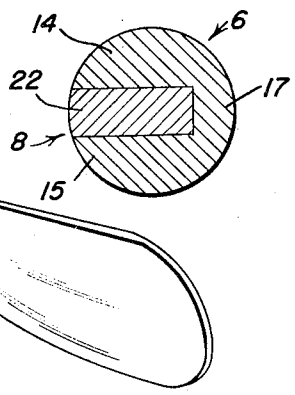


Fig. 4.

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PRACTICE TYPE GOLF CLUB

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3 Claims. (Cl. 273—80)

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This invention relates to improvements in training-type golf clubs, especially, but not necessarily, putters which are strangely but scientifically made for those who desire to practice and perfect an acceptably correct smooth and well-timed pendulus back stroke.

One object of the invention is to provide a novel club, the construction of which is such that the user, by continually experimenting with it and relying on repetitional and thoughtful effort, will eventually acquire the knowledge and restraints necessary to mentally gage and detect by the "feel" of the club, the precision and force required to establish properly trained muscles and attending faculties essential in perfecting a timely swing which, with practiced effort, becomes standardized and fixed to the extent that it may be relied upon, with confidence, to achieve a smooth and unhampered putting stoke.

Another object of the invention is to provide a simple and practical training club for use, particularly by beginners, which is so constructed that it enables a user to regulate conduct and initiate the back movement or stoke in such a way that he learns, by trial and error, to control the behavior pattern of head, hands, arms and other facilities to the end that steadied constancy is attained, along with a development of a fixed stance, one which may be called upon, time and again, to insure uniform and self-assured performance.

More specifically, I have evolved and produced a unique training club which is characterized by a sectional shaft, the sections being hingedly connected together and one section carrying the conventional grip and the other section carrying the usual head; the hinging connection being so constructed that it enables the user to determine and select a norm from which to calculate the correct velocity and effort thought necessary for a properly rated and powered putting stroke.

Another object of the invention is to provide a special training club of the aforementioned construction wherein the hinge connection takes the form of a reliable rule-joint which is stiff during the forwardly moving stroke but breaks joint during the back stroke, that is, if the movement and acceleration of the club is ill timed, jerky or interrupted, whereby to positively signal and warn the user that his club is out of control due to faulty application of force and timing.

Then, too, and in addition to the incorporated rule-joint, my improved club embodies, inside of the handle section, a precision-type spring pressed detent which co-acts with a relatively

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movable part of the rule-joint in a manner to prevent the latter from "folding" until it is subjected to that stage of strain for which it was set, by the manufacture, to automatically come into play.

Other objects and advantages of the invention will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a rear perspective view of a practice-type golf club, a putter, constructed in accordance with the principles of the present invention,

Figure 2 is an enlarged fragmentary view, with portions in section and in elevation, and on an enlarged scale, which serves to disclose with particularity the details of constituting my improvements,

Figure 3 is a fragmentary sectional view at right angles to Figure 2, taken on the line 3—3, and looking in the direction of the arrows,

Figure 4 is a cross section, on a further enlarged scale, taken on the line 4—4 of Figure 2, looking in the direction of the arrows.

Briefly summarized and by way of introduction to the detailed description, a general review of the drawings will reveal a structurally distinct training putter which is so made that it well serves to assist a golfer in executing a smooth, well-timed and faultless back stroke, the same being characterized by an upper shaft section provided on its upper end with a hand grip and provided on its lower end with spaced parallel furcations, a lower shaft section complemental to the upper shaft section and in normal axial alignment with said upper section and provided on its lower end with a conventional type club head and further provided, on its upper end, with a centralized lug which is interposed between the stated furcations and is hingedly connected with the furcations so that it will be free to pivot, unrestricted by return spring means, and provided on its upper, freely swingable end with a single axially alignable keeper seat for a detent. The latter is manually regulable, spring-projected and mounted axially in the upper shaft section so that its latch-forming end projects into the crotch between the stated furcations, the projecting end being engaged with the stated keeper seat in a manner to temporarily fasten and maintain the two shaft sections in normal axial alignment but also to, at the same time, transfer applied force from the hand grip along both

sections and through the medium of the detent engaging the hinged lug in a manner which is sufficient to overcome the inertia of the club head and so that if the magnitude of the applied force it too sudden and severe, the inertia of said head establishes the wanted lag which is sufficient to then trip and wholly release the detent, allowing the hinged portions of the shaft sections to completely break joint with each other and at the same time to swing and stay out of alignment with each other until the shaft sections are again closed, by hand, and aligned in order that the detent again engages itself in the keeper seat.

Referring now to the drawings by distinguishing reference numerals and attending lead lines it will be seen that the handle equipped section of the shaft is denoted, as a unit by the numeral 6 and is provided with a suitable hand grip 7. The head equipped section is denoted by the numeral 8 and embodies a shank 9 provided at its outer end with a golf ball striking and sending head 10. Incidentally, and as before indicated, my invention is susceptible of embodiment in all types of golf clubs such as drivers, and other woods and so-called irons, but is here shown as incorporated in a practice putter.

In keeping with the principles of the invention the sections 6 and 8 are mechanically interconnected by novel hinge means, preferably a rule-joint. In addition, novel detent means is embodied for coaction with said rule-joint. More specifically, the handle section 6 is provided with a central axially extending bore 11 whose outer end opens through the corresponding end of the hand grip and is threaded to accommodate a tension adjusting and regulating screw 12 for an expansion type coiled spring 13 which is housed in the bore. The opposite inner end of the bore opens into a space provided by bifurcating the inner end of the shaft section 6. The furcations 14 and 15 have their terminal end portions being interconnected by a cross-web 17 functioning as a stop shoulder. The stop shoulder 17 reaches across the rearward face of the shaft, that is, the side which faces in the direction of the back swing and, as shown in Figure 2, defines a clearance slot 18. Referring again to the bore and spring means it will be seen that the inner end portion of the spring 13 presses against and yieldably projects a trip-latch or plunger 19 carrying a reduced terminal portion 20 terminating in a wedge-shaped detent 21.

The shaft section 8 has its inner end portion reduced and fashioned into a centrally disposed lug 22 which is shaped and proportioned to fit and operate between the stated furcations 14 and 15. At this point I also provide shoulders 23 which function as abutments and coact with the stated abutments 16 on the furcations. The rear edge of the lug is provided with an adapter notch 24 which seats the stop shoulder 17. Lug 22 is connected by a hinge pin 25 to said furcations 14 and 15 as brought out in Figure 2. The free end portion of the lug has a central V-shaped notch 26 which provides a keeper seat for the correspondingly shaped detent 21. The notched end portion of the lug is curved as shown to conform to the portions between the furcations and one half portion is cut away to define a check stop 27 which is also cooperable with spring pressed detent.

The coacting furcations, lugs and stop shoulder, together with the hinge pin connection between same define what may be broadly described as a common rule-joint. Thus, the joint opens or "folds" in but one direction. To accomplish what is wanted here, the hinge pin 25 is at right angles to the longitudinal axis of the sectional shaft and is substantially parallel to the ball lofting face or surface of the club head 10.

The rule-joint is temporarily fixed and the shaft sections are held in longitudinal alignment with each other due to the fact that the detent 20 is normally spring pressed into retentive location in said keeper notch 26. However, the club, when in use, is susceptible of "folding" or collapsing in the manner shown in dotted lines in Figure 2 when it is improperly accelerated or retarded too rapidly, by a jerky movement while making an improper back swing.

The initial tripping and release action, between the sections, comes into play when the back swing is unmethodical, ill timed or abruptly interrupted. Thus, the detent 21 would be released from the keeper notch 22 and the forwardly and upwardly swinging shaft section 8 would break joint from the section 6 and partially open as shown in dotted lines in Figure 2.

The stop 27 is an optional feature and also coacts with the spring pressed detent and provides a secondary signal when, during the opening movement of the movable section 8, the same comes into contact with the detent and depresses and snaps past same in the event that the error in the back swing is excessive. Thus, two signals are available, the primary one which comes about when the impetus given the swing of the club causes the detent 20 to disengage from the keeper seat 26 and when an abnormal impetus is brought about, the secondary check stop 27 engages the spring pressed detent and swings by same.

A golf club equipped with my novel rule-joint and coacting adjustable detent means provides in the club, a discernible signal each time the user makes an improper sweeping stroke. It follows that the user may thus detect and ascertain the faults which are present in causing the club to fold and may experiment by changing stance, position of the hands, and power of the swing to ultimately learn how to handle the back swing in such a way that he will eventually acquire the knack necessary for a properly powered and timed back swing.

It is clear too that the joint opens under inertia and momentum forces when the head section takes flight ahead of the handle section. When, however, the user manipulates the club, hands, arms and body and other parts harmoniously and in controlled unison he will soon be able to correct a jerky and therefore faulty back swing and will perfect a smooth properly rated back swing, once the obvious faults are detected and corrected.

Broadly, it has been my observation that the velocity of movement of a golf club from a given starting point (substantially at rest) to begin one's back stroke is a significant phase of a proper putting stroke. A sudden application of force to the club tends to "whip" the head into motion and a jerky and inconstant stroke follows, one which throws the golfer off balance, out of stance, and interferes with and makes faulty the forward movement. Therefore, it is my theory that a "good beginning" is imperative, for otherwise the entire swing, from beginning to end, is inexpert. Consequently, a good back stroke during which the club head "floats" from its "at rest" position behind the ball, to the "top" of the return stroke is to be desired. My improved club is made to assist one in acquiring a properly timed, powered, and smooth back stroke.

Theoretically then, the force is applied to the

handle, and is transferred and transmitted along the longitudinal reach of the shaft. The latch held and trippable hinge is set to carry a predetermined load or force, just sufficient that the inertia of the head is overcome with requisite nicety and the necessary impetus is imparted to carry said head back with the shaft. Where the magnitude and momentum of the applied force is erratic and not in keeping with prerequisites, the overload traversing the hinge "springs" the latter, permits the shaft to fold and lets the user know that the requirements of a perfected swing were not met, that he should try, and try again, until all requisite factors are properly co-ordinated. When the pendulum motion is proper, the shaft will function as though it were of rigid one-piece construction.

Although the spring latch-retained breakable rule joint herein disclosed and described may be applicable to all types of golf clubs where same are used for practicing and absolutely detecting errors in one's swing, it is essentially, if not almost altogether, applicable to a putter where the stroke must be slow, where the length of the stroke from beginning to end and return is short, and where one's visualization of the club head and muscular movements and control must harmonize with one's thinking, for it is reasoned that the club head, in putting, should not be rated for movement at a speed faster than the golfer's ability to think. It is significant, in connection with this invention, to keep in mind the fact that once the sections of the club break joint, as shown in dotted lines in Fig. 2, the club is momentarily or temporarily useless. In fact, at this stage the latch is completely disengaged from the keeper seat and the lower headed section 8 dangles in respect to the upper section 6. This means, therefore, that the physical impairment of the club at this stage positively notifies the user as to the fault and keeps reminding him each time he repeats the fault, for it is necessary, in order to start all over, to again reset the latch. Then, too, the oblique shoulders, keeper seat, and latch and exact position of the pivot pin betwen furcations and lug must be precision-located, because the moment that the oblique shoulders come together, then the latch should immediately snap into its seat.

Also, when the joint breaks, the spring and detent are momentarily out of play. This means, therefore, that no spring tension whatsoever is exerted against the headed section 8 once it is displaced to take the inoperative position shown.

A careful consideration of the foregoing description in conjunction with the invention as illustrated in the drawings will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials are rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as claimed.

Having described the invention, what is claimed as new is:

1. A training-type back stroke perfecting putter of conventional style and proportions comprising a shaft embodying an upper section provided on its upper end with a handle and a complemental lower section provided on its lower end with a ball striking head, said upper section having its lower end portion bifurcated and defining spaced parallel furcations and an intervening

crotch, the tip ends of said furcations being beveled to provide oblique abutments, a cross-web rigidly connecting said furcations on their rear sides and providing a lug stop shoulder, said lower section having a central lug on its upper end located between said furcations and having beveled abutments at the lower end portion of said lug corresponding to and bearing firmly against said first named abutments, the rear edge portion of said lug being rigidly contactable with said stop shoulder when the sections are in axial alignment, said head being at right angles to said furcations and lug, a hinge pin piercing and joining said furcations and lug, said hinge pin being at right angles to the longitudinal axis of the shaft sections and substantially parallel to the ball lofting surface of said head, the upper end portion of said lug being provided with a centrally disposed notch constituting a keeper seat, and a manually regulable projectable and retractable spring pressed detent mounted in said upper handle equipped section and projecting into the crotch and releasably engageable with said keeper seat, said detent serving to mechanically latch said abutments in contact with each other and to normally hold said lug against said stop shoulder and, in addition, serving to permit the lug to free itself from the spring-held detent, whereby to disconnect and render said sections inoperative until same are reset by hand.

2. A training-type back stroke practicing and perfecting putter of the class shown and described comprises a lower shaft section having an outstanding ball striking head at its lower end, the upper end being reduced in cross section and defining a centrally situated upstanding extension constituting a hinging lug, and obliquely disposed stop shoulders on opposite sides of said lug, the free upper end portion of said lug having a centrally situated V-shaped notch constituting a keeper seat for a detent, an upper handle equipped shaft section having a longitudinally extending bore, a detent slidably mounted in the lower end of the bore, a coiled spring in said bore engaging said detent, a portion of said bore being screw-threaded, an adjusting screw mounted in said screw-threaded portion and cooperating with the adjacent end of said coiled spring for regulating the tension of the spring, the lower end of said shaft section, beyond said detent, being bifurcated and defining furcations, said lug fitting between said furcations and the lower ends of the latter being oblique and engaging said shoulders, said head being at right angles to said furcations and lug, and a hinge pin piercing said furcations and lug at right angles to the latter and substantially parallel to said head, said detent being retentively engaged in said notch when said sections are in axially aligned normal relationship and being self and wholly released when said sections automatically separate and completely break joint, at which time said sections, except for the hinged joint, are inoperatively separated.

3. A training type back stroke practicing and perfecting putter of the type shown and described comprising a sectional shaft, said shaft embodying an upper section provided at its upper end with a hand grip, the lower end of said upper section being provided with spaced parallel furcations, a cross web integrally joining the furcations on their rear vertical edges and spaced from the crotch portion between the furcations to define a lug clearance slot, a lower shaft section provided on its lower end with a ball striking head, the upper end of said lower section having a rigid

lug fitted firmly between the furcations, a hinge pin piercing the furcations and lug at right angles to the latter and substantially parallel to said head, said lug being provided on its rear end with an adapter notch for reception of said cross web, said upper handle equipped section being provided with a longitudinally extending axial bore opening at its lower end into the crotch between the furcations, a detent slidably mounted in the lower end of the bore and projecting into the crotch between said furcations, said lug having an axially centered keeper seat for reception of said detent, a coiled spring confined wholly in said bore bearing at one end against said detent,

and an adjusting screw mounted in said bore and engaging the adjacent end of the spring for regulating the tension of the spring.

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