Sept. 17, 1963 R. R. ROBERTSON 3,104,108

PRACTICE APPARATUS FOR DEVELOPING A CORRECT GOLF STROKE

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FIG. 1.

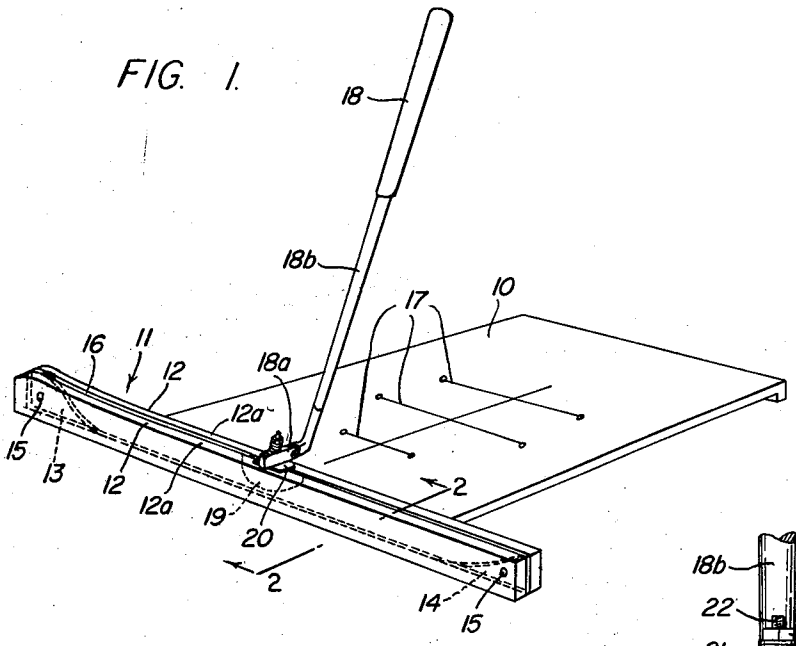


FIG. 2.

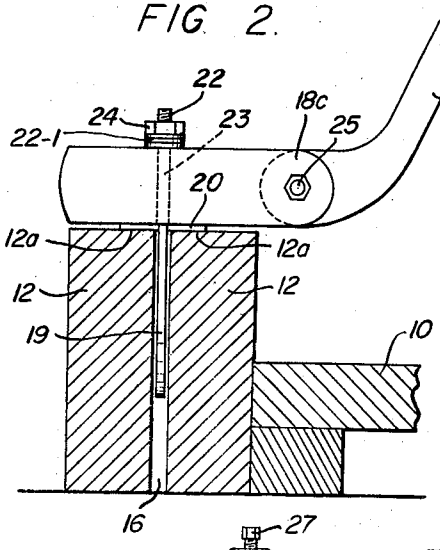


FIG. 3.

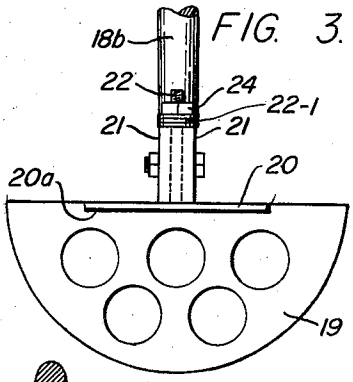


FIG. 4.

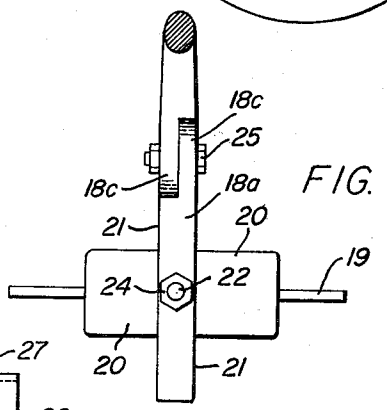


FIG. 5.

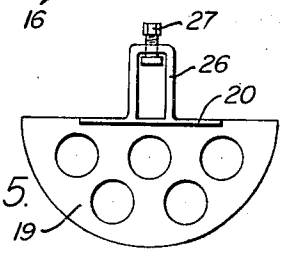
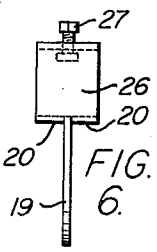


FIG. 6.



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FIG. 7.

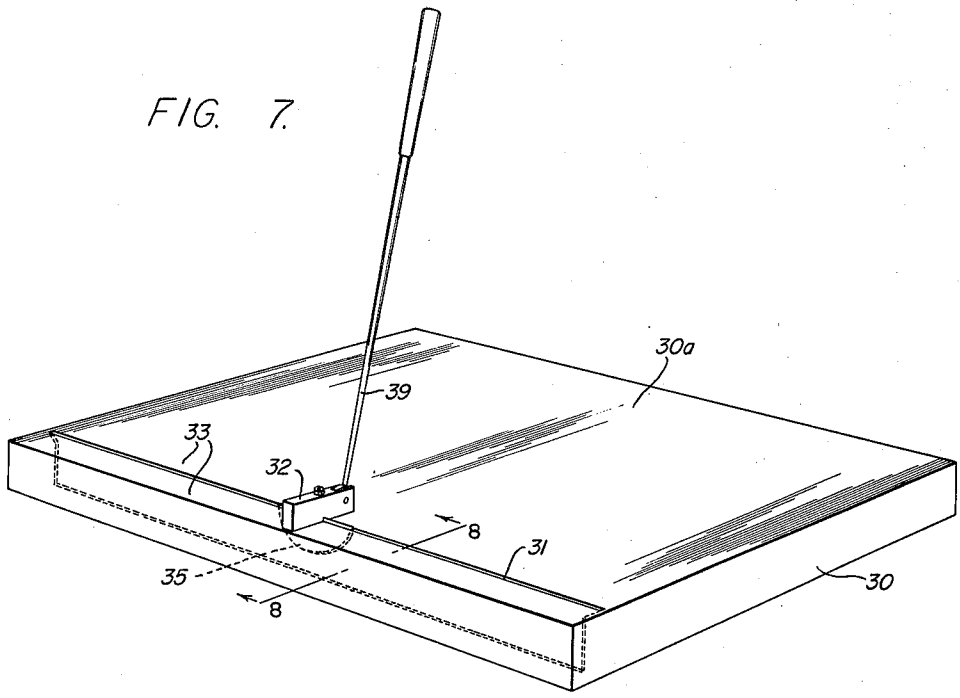


FIG. 8.

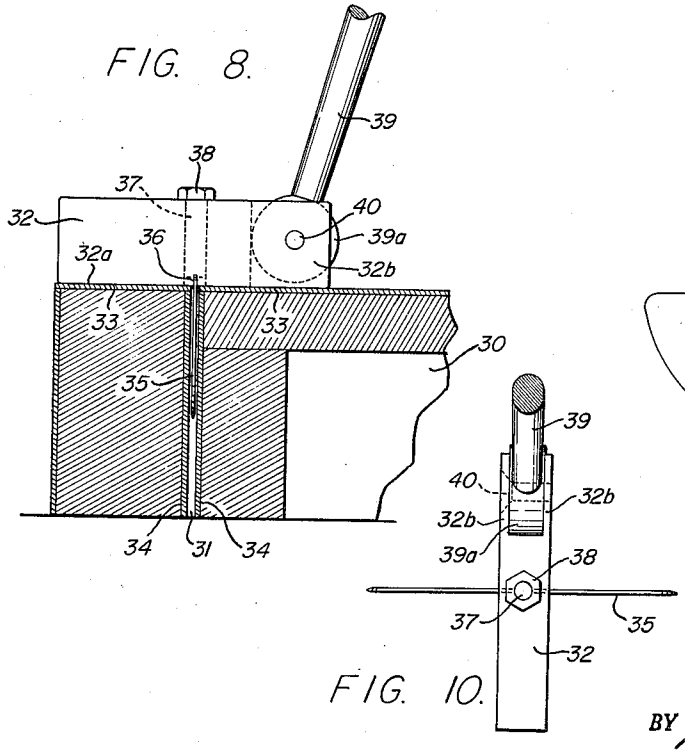


FIG. 9.

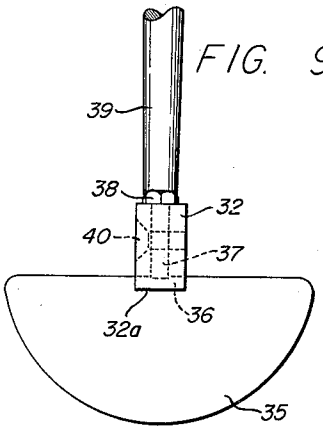


FIG. 10.

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PRACTICE APPARATUS FOR DEVELOPING A CORRECT GOLF STROKE

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15 Claims. (Cl. 273—192)

This invention relates to practice apparatus for developing accurate manual strokes with a golf club, and is especially concerned with putting and chipping.

As a golfer, I have found that it is possible to develop, by precision practice, strokes that are almost unfailing in achieving desired results in putting and chipping a golf ball. A golfer's performance depends to a large extent on the training of certain of his muscles in such a way that the club is guided along a straight line extending to the desired destination of the ball. Thus, if the golfer has the skill to swing the club precisely along such a straight line while holding it in correct position with respect to the ball, he is likely to achieve spectacular results.

Much practice is required to attain the requisite skill, but I have found that by conducting the practice with forethought and intelligence the particular muscles employed in motivating the club may be so trained that, by force of habit, those muscles hold the club properly throughout the stroke. Thus, the propelling energy of a golfer's body can be so regulated and directed that the ball is compelled to follow a path that leads to successful ball placement.

The general idea of practicing the swing of a golf club, while utilizing special apparatus to constrain the club to follow a predetermined path, is not new. Yet, the devices heretofore suggested for the purpose have fallen far short of the desired objectives. They have not furnished the type of control I have found to be essential for the purpose.

Accordingly, a principal object of this invention is to provide golf practice apparatus which rigidly constrains a golf putting or chipping stroke in all important respects and yet can be quickly and easily adapted to the peculiarities of individual golfers.

A principal feature of the apparatus is the provision of a substantially vertical guide plate adapted to be rigidly attached to the bottom of the head of a putter type of golf club, intermediate and transversely of the length thereof and depending therefrom, and a guideway having an elongate rectilinear slot for receiving such guide plate and for guiding it as the club is swung through a golf putting or chipping stroke. Laterally overhanging guide means are advantageously provided for helping the golfer keep the club in proper position and the guide plate from binding in the slot as the club is swung, although the flat bottom face of the club can be relied upon in conjunction with the flat upper face of the guideway for these purposes. It is preferred, also, that provision be made for adjustment of the angular relationship between club head and handle shaft to adapt the device to a golfer's individual peculiarities.

Further objects and features of the invention will become apparent from the following detailed description of the presently preferred forms of the apparatus which are illustrated by way of example in the accompanying drawings.

In the drawings:

FIG. 1 represents a view in front perspective of one form of the apparatus which utilizes a special club enabling angular adjustment of the head with respect to the handle, the club being shown in one practice position and several possible standing positions for the golfer being indicated;

FIG. 2, a fragmentary vertical section taken on the line 2—2 of FIG. 1, the view being drawn to a considerably enlarged scale;

FIG. 3, a fragmentary front elevation of the lower portion of the golf club of FIGS. 1 and 2 apart from the guideway, the view being drawn to the enlarged scale of FIG. 2;

FIG. 4, a plan view corresponding to FIG. 3;

FIG. 5, a front elevation of a guide plate constructed for attachment to a standard golf club;

FIG. 6, an end elevation of the guide plate attachment of FIG. 5;

FIG. 7, a view corresponding to that of FIG. 1, but illustrating another form of the apparatus which has proven very satisfactory;

FIG. 8, a view corresponding to that of FIG. 2, but taken on the line 8—8 of FIG. 7;

FIG. 9, a view corresponding to that of FIG. 3, but showing the club of FIGS. 7 and 8; and

FIG. 10, a view corresponding to that of FIG. 4, but taken with respect to FIG. 9.

Referring to the drawings:

In FIG. 1, the numeral **10** denotes a practice plate or board serving as a platform upon which a golfer stands. Rigidly affixed thereto, as indicated in FIG. 2, is a frontal guideway **11** made up, in this instance, of two elongate slats **12** spaced apart from each other by means of inserts **13** and **14** at opposite ends and held tightly together by means of bolts **15**, so as to define an elongate slot **16** having ends closed arcuately, as indicated in FIG. 1.

In accordance with the invention, a golfer or would-be golfer stands on the practice board **10** with a special practice club held properly in his hands for executing a putting or chipping stroke. Markings **17** may be applied to the board, if desired, to indicate several possible stances adapted to different individuals.

The practice club may be constructed specifically for practice purposes, as is the club **18** of FIGS. 1–4, or, less desirably, it may be a usual putter or chipper club which has been converted for practice purposes by attachment of the device of FIGS. 5 and 6 to its head. In either instance, it is provided with a substantially vertical guide plate **19** rigidly attached to and depending from the flat bottom of the club head, intermediate and transversely of the length thereof. In this instance, it is also provided with guide means which advantageously take the form of flanges **20** extending laterally from opposite sides of the guide plate, overhanging the latter, and defining along their undersurfaces respective, flat, guide surfaces **20***a* adapted to cooperate with corresponding, flat, guide surfaces **12** on top of the guideway members **12** and marginal to slot **16**, in guiding practice strokes of the club.

In special practice club **18**, the flanges **20** may be conveniently provided in the form of a rectangle, flush with the top edge face of guide plate **19**. Such guide plate **19** may be perforated, as shown, to make it lighter in weight and may be made of any suitable material such as metal or a sturdy plastic.

Slot **16** is rectilinear and slightly wider than the thickness of guide plate **19**, so as to receive such guide plate and constrain the club to follow a proper rectilinear path as it is swung through a practice stroke by the golfer standing on practice board **10**. The cooperative, flat, guide surfaces **20***a* and **12***a* of club and guideway, respectively, enable the practice golfer to keep guide plate **19** from binding in the slot as the club is swung, and, at the same time, train his muscles to hold the club properly for executing a perfect stroke as respects a golf ball.

A properly directed, straight stroke of the club, with its ball-engaging face properly oriented, is insured by a 90° angular relationship between guide plate **19** and the ball-engaging face of the club head, on the one hand, and between such ball-engaging face and a horizontal plane

of travel established by the cooperative guide surfaces 20*a* and 12*a*, on the other hand, see faces 21 of club head 18*a* in FIGS. 3 and 4 and the horizontal plane represented by the underfaces of flanges 20. As indicated in FIG. 1, the guide surfaces 12*a* of guideway 11 are rectilinear throughout the greater part of their lengths and are parallel.

In the initial stages of practice, it has been found that great difficulty is encountered in maintaining a truly rectilinear stroke and that there is considerable tendency for guide plate 19 to bind end-to-end within slot 16. Accordingly, provision is desirably made in the attachment of guide plate 19 to the head of practice club 18 for permitting pivotal movement of such plate about a vertical axis, when desired. This is conveniently accomplished, as shown in FIGS. 1–3, by the provision of a threaded stem 22 rising rigidly from the top edge of guide plate 19 midway of its length and by the provision of a vertical receiving hole 23 through club head 18*a*. Such stem serves as a bolt upon which a nut 24 is screwed. When the nut is left a bit loose, guide plate 19 pivots relative to the club head.

After the practice golfer has acquired some skill, nut 24 should be cinched tightly, with guide plate 19 in its proper 90° relationship with faces 21 of the club head.

In some instances it may be found desirable to make stem 22 excessively long, so that a selected number of washers 22-1 can be added to increase the weight of the club to suit different individuals.

It is advantageous that the shaft 18*b* of club 18 be adjustably attached to club head 18*a*, so that the included angle between them may be changed as found desirable for different individuals. This is conveniently accomplished by the mating ears 18*c*, FIG. 4, and a bolt 25, which extends transversely therethrough and serves as a horizontal pivot pin clamping the ears tightly together in a selected adjusted position.

When the practice golfer has acquired a certain degree of skill in swinging practice club 18 accurately along slot 16, he may wish to utilize a conventional club for further practice. He can do so by attaching the device of FIGS. 5 and 6 to the head of the usual putter or chipper club.

As shown, this device has the guide plate 19 and lateral flanges 20, but is provided with a yoke 26, instead of stem 22, for receiving the head (not shown) of the usual putter or chipper club, and with a clamping screw 27. The inner faces of such yoke 26 preferably make the desired 90° angle with the guide plate.

In both the club 18 and the device of FIGS. 5 and 6 it is desirable that the lower edge of guide plate 19 be arcuate to correlate with the curvature of spacer inserts 13 and 14. As shown, the curvature of the plate is preferably semi-circular.

As illustrated in FIGS. 7–10, the apparatus of the invention need not have club guide surfaces additional to the flat bottom face of the club head for cooperation with top surfaces of the guideway in maintaining proper club guidance. Thus, the flat bottom face of the club head, which laterally overhangs the guide plate, can be used to satisfactorily replace the laterally overhanging flanges 20 of the foregoing embodiment.

The guideway 30 is itself, in this instance, of broad platform formation, having an entirely flat top surface 30*a*, resembling the top of a table, and a slit 31 extending along one margin thereof for receiving the guide plate of the practice club. Thus, the practicing golfer stands at the level of the flat bottom 32*a* of the club head 32 when such bottom is sliding along in face-to-face relationship with the flat guide surface portions 33 of guideway surface 30*a* marginal to slit 31 as he executes his practice strokes.

For both ease of action and durability, it is preferred to line the opposing walls of slit 31, as at 34, FIG. 8, with a hard and smooth material, such as a thermosetting plastic panel material obtainable under the proprietary names of "Formica," "Micarta," etc., and to do the same with the guide surfaces 33. It is convenient and preferred from the standpoint of appearance to cover the entire platform, top and sides, with such material as is indicated in FIG. 8.

The guide plate 35 is shown as firmly anchored to club head 32 by being drawn up tightly into a receiving slot 36 which traverses the width of club head 32 intermediate of and at right angles to its length, there being a threaded post or stud 37 welded or otherwise secured to such guide plate 35 and extending upwardly through a receiving opening in club head 32 to receive a cinching nut 38, as in the first embodiment.

In this instance, handle shank 39 of the club is adjustably secured to club head 32 by a circular terminal fitting 39*a* interposed between spaced ears 32*b* and tightly clamped into a selected position by means of a screw 40 which serves as a pivot pin during adjustment.

The present application constitutes a continuation in part of my copending application Serial No. 820,712, filed June 16, 1959, now abandoned.

Whereas this invention is here illustrated and described with respect to presently preferred, specific embodiments thereof, it is to be understood that various changes may be made within the scope of the following claims, without departing from the essential teachings hereof.

I claim:

1. Golf practice apparatus, comprising a golf club; a single guide plate rigidly attached to and depending from the bottom of the club head, transversely thereof and substantially perpendicularly thereto, said head and plate being each positioned intermediate the length of the other; and an elongate guideway structure having parallel upper guide surfaces which are rectilinear throughout the greater part of their lengths and which are separated by an elongate, vertical rectilinear slot for receiving said guide plate and for guiding it along a rectilinear path as the club is swung, said slot being only slightly wider than the thickness of said plate, the bottom of said club head having guide surfaces at opposite sides of said plate which cooperate in face-to-face relationship with said upper guide surfaces of the guideway structure in establishing proper club swing by a practice golfer and in preventing said plate from binding in the slot during practice swinging of the club.

2. The apparatus of claim 1, wherein the club head is pivotally secured to the club handle along a horizontal axis extending transversely of the club head, and means are provided for rigidly locking the two together in selected positions of relative adjustment.

3. The apparatus of claim 1, wherein the bottom of the club head is transversely slotted intermediate its length and the guide plate is inset in said slot to hold it firmly against lateral displacement.

4. Golf practice apparatus, comprising a golf club; a single guide plate rigidly attached to and depending from the bottom of the club head, transversely thereof and substantially perpendicularly thereto, said head and plate being each positioned intermediate the length of the other; an elongate guideway structure having parallel upper guide surfaces which are rectilinear throughout the greater part of their lengths and which are separated by an elongate, vertical rectilinear slot for receiving said guide plate and for guiding it along a rectilinear path as the club is swung, said slot being only slightly wider than the thickness of said plate; and guide means on said club head and extending from opposite sides of said plate for cooperating with said upper guide surfaces of said guideway for enabling a practice golfer to keep said plate from binding in the slot as the club is swung.

5. The apparatus of claim 4, wherein in the guide means comprise flanges extending laterally from opposite sides of said guide plate, overhanging the latter and defining flat, horizontal, guide surfaces along their lower faces,

and wherein the cooperative guide surfaces at the top of said guideway and marginal to said slot are flat and horizontal.

6. The apparatus of claim 5, wherein the said guide plate and the flanges are formed together as a unit separately from the golf club, and wherein means are provided for removably attaching said unit to a golf club.

7. The apparatus of claim 6, wherein the attaching means comprises clamping means arranged to receive and rigidly secure the head of a conventional golf club.

8. The apparatus of claim 4, wherein the club head is pivotally secured to the club handle along a horizontal axis extending transversely of the club head, and means are provided for rigidly locking the two together in selected positions of relative adjustment.

9. The apparatus of claim 4, wherein the guide plate has its bottom edge of arcuate configuration, and the guideway slot has its ends closed along correlated arcuate paths.

10. The apparatus of claim 4, wherein the cooperative guide means on the club head comprises a substantially horizontal plate secured to the top edge of said guide plate intermediate its ends and overhanging its opposite lateral sides, and the cooperative guide means on the said guideway comprises substantially horizontal surfaces marginal to said slot.

11. The apparatus of claim 4, wherein the guide plate is pivotally secured to the club head along a vertical axis, and means are provided for rigidly clamping the two together in a 90° angular relationship when desired.

12. A practice guide device for attachment to the head of a conventional golf club, comprising a single guide plate; flanges extending laterally from opposite sides of said guide plate so as to overhang the latter and define guide surfaces along their lower faces; and clamping means above said flanges; said clamping means having a channel whose length extends transversely of said plate and is arranged to receive the head of a conventional golf club transversely of the flanges, and said clamping means having a clamping device disposed adjacent said channel for rigidly securing said head in the latter, whereby said guide plate is substantially vertical when the club is held in ball-hitting position, said flanges and guide surfaces defined thereby extending significantly beyond said plate at both sides thereof and significantly beyond said clamping means at both ends thereof as stabilizing means when using the club in connection with a guideway structure provided with an elongate slot for receiving said plate and with elongate surfaces bordering the slot for seating said guide surfaces.

13. Golf practice apparatus, comprising a simulated golf club having a shaft with a handle at its upper end and a ball-striking head at its lower end; a single guide plate rigidly attached to and depending from the bottom of said head, transversely thereof and substantially perpendicularly thereto intermediate the length of both head and plate; and an elongate guideway structure having parallel rectilinear upper guide surfaces separated by an elongate, vertical rectilinear slot for receiving said guide plate and for guiding it along a rectilinear path as the club is swung, the bottom of said head being formed for face-to-face sliding relationship with said parallel upper guide surfaces.

14. The apparatus of claim 13, wherein the bottom of the club head is transversely slotted intermediate its length and the guide plate is inset in said slot to hold it firmly against lateral displacement.

15. The apparatus of claim 1, wherein the slot is defined by walls which are lined with an anti-friction material.

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