United States Patent [19]

Koo

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[54] **GOLF PRACTICE DEVICE**

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[52] **U.S. Cl.** ..... **273/185 C,** 273/185 D

[51] **Int. Cl.** **A63b 69/36**

[58] **Field of Search** 273/184, 185, 196, 197, 273/198, 183

[56] **References Cited**

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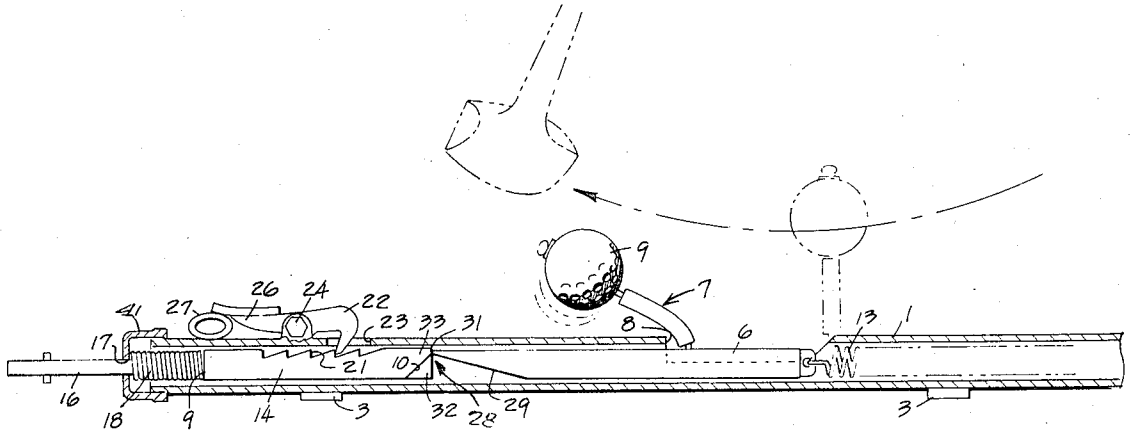
Primary Examiner—George J. Marlo

Attorney, Agent, or Firm—George B. White

[57] **ABSTRACT**

A tubular casing is held on a pad; through an elongated slot thereof extends a tee stem which supports a golf ball; a reciprocating tee bar inside the tubular member supports the tee stem on the bar so that when the ball is struck the bar is advanced against the action of a coil spring which latter returns the tee bar and the ball into an initial position; spaced from the tee bar is an indicator bar in the tubular member held in an initial position by a coil spring in the far end of the tubular casing and it has an extension projecting beyond the end of the tubular casing provided with indicia for indicating the distance corresponding to the force of striking the ball; a releasable pawl and ratchet device holds the indicator bar in extended position; the point of the tee bar is offset toward the slotted top of the casing so that when the ball is hit to one side or the other it turns the tee bar thereby reducing the force of impact on the indicator bar and also moving side flaps or plates for indicating the direction in which the tee bar was turned.

10 Claims, 10 Drawing Figures



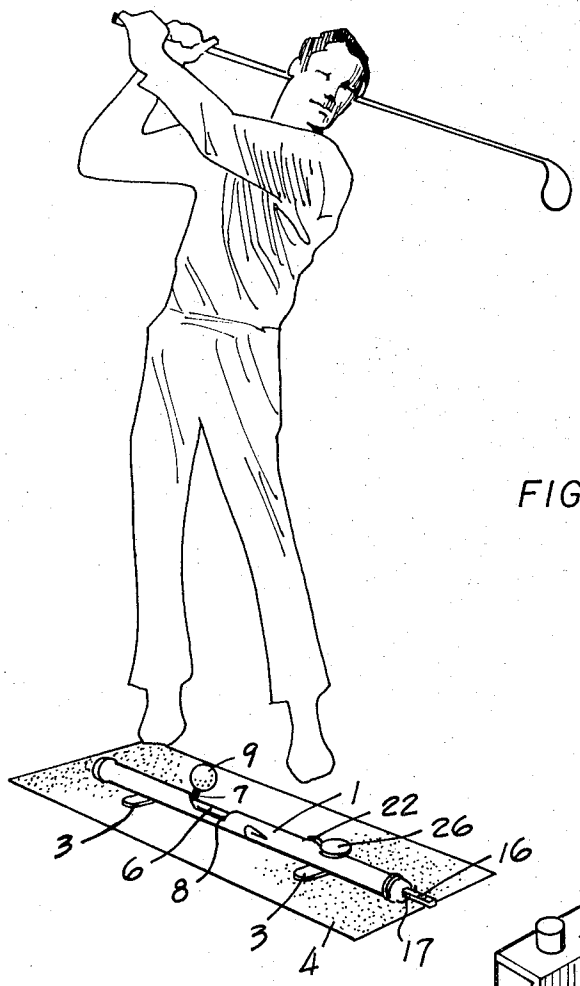
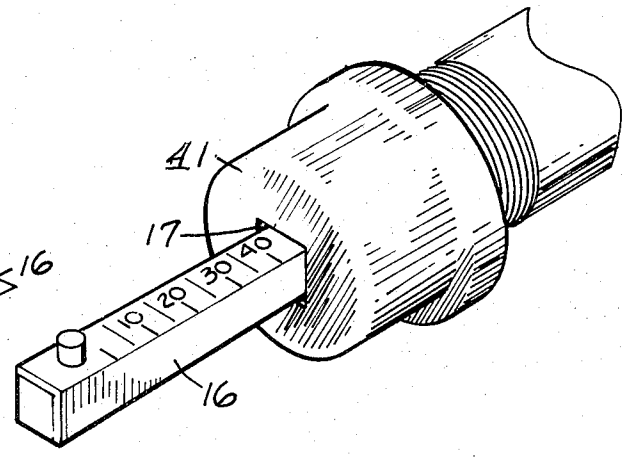


FIG. 1.

FIG. 3.



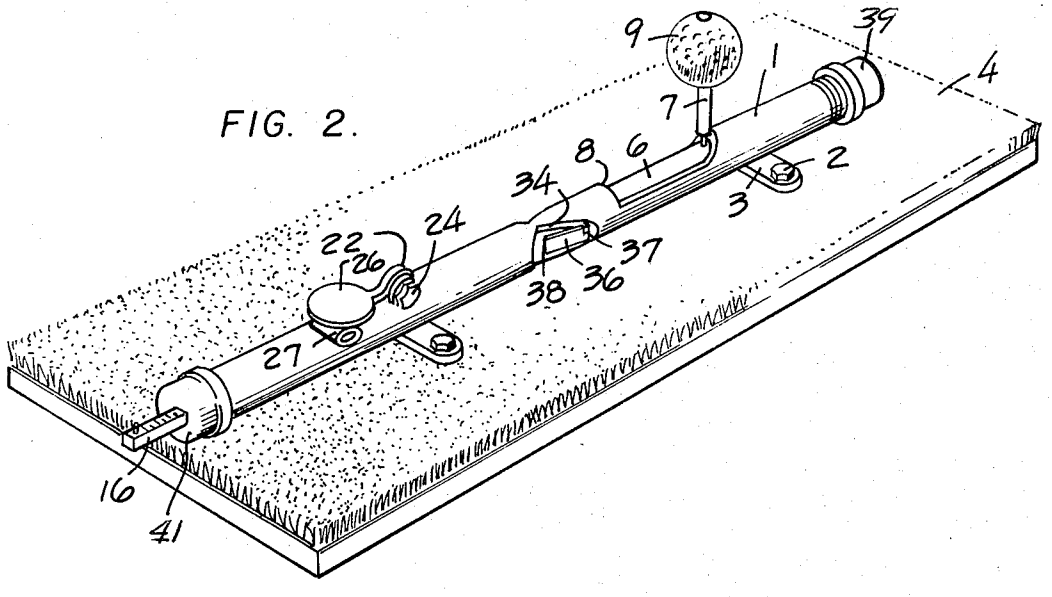


FIG. 2.

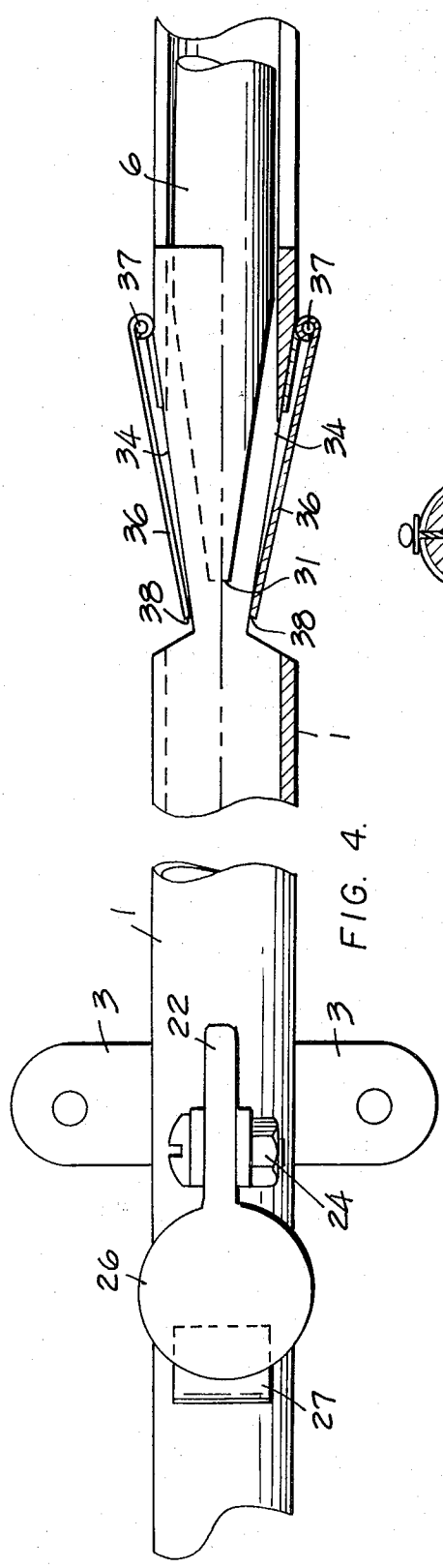


FIG. 4.

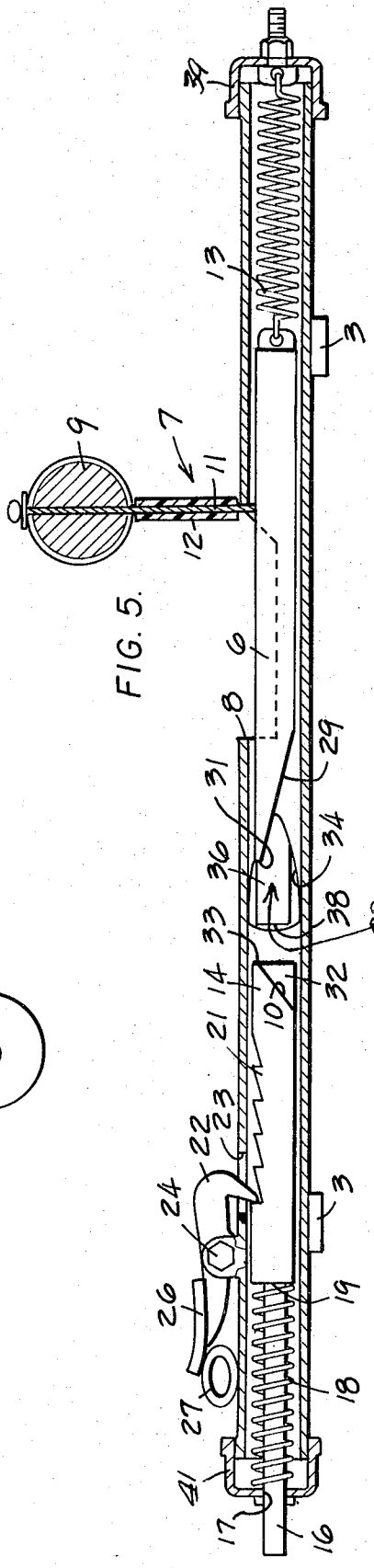


FIG. 5.

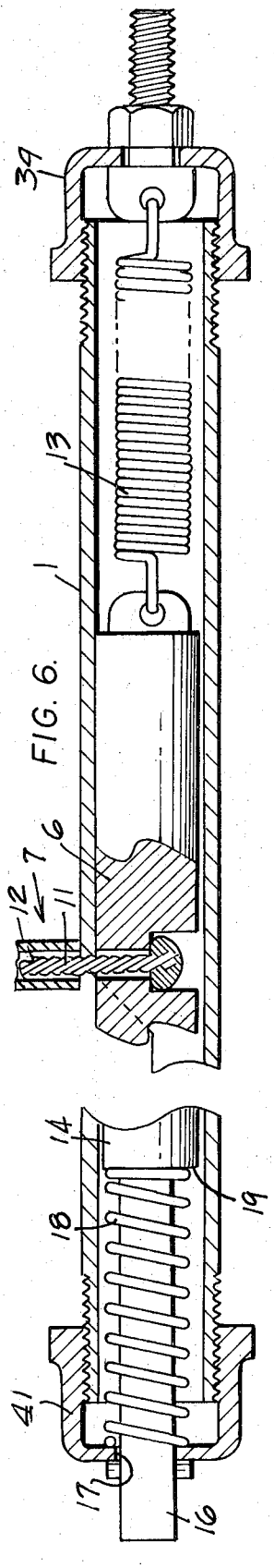


FIG. 6.

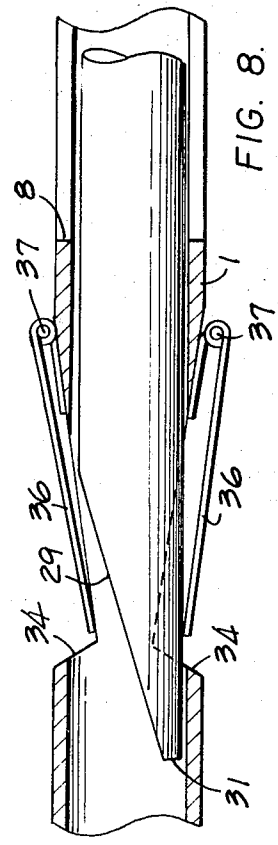


FIG. 8.

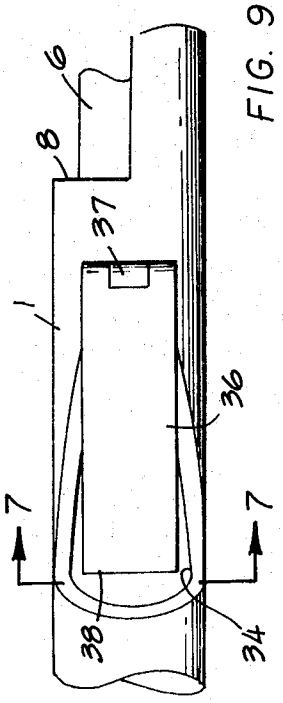


FIG. 9

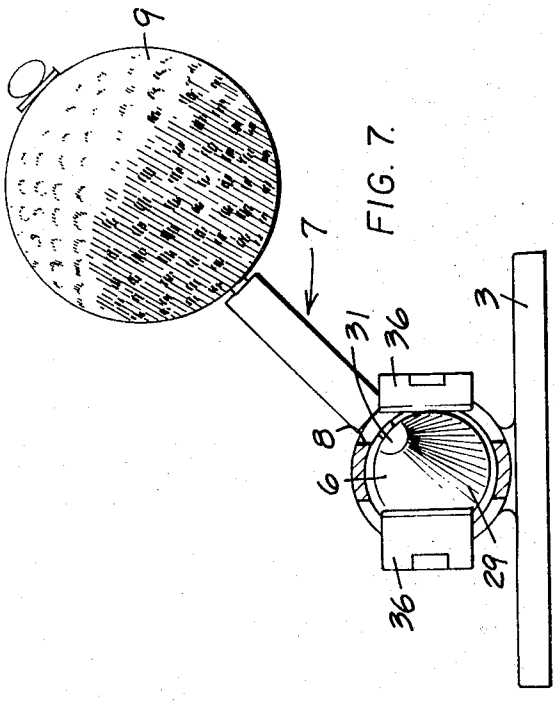


FIG. 7.

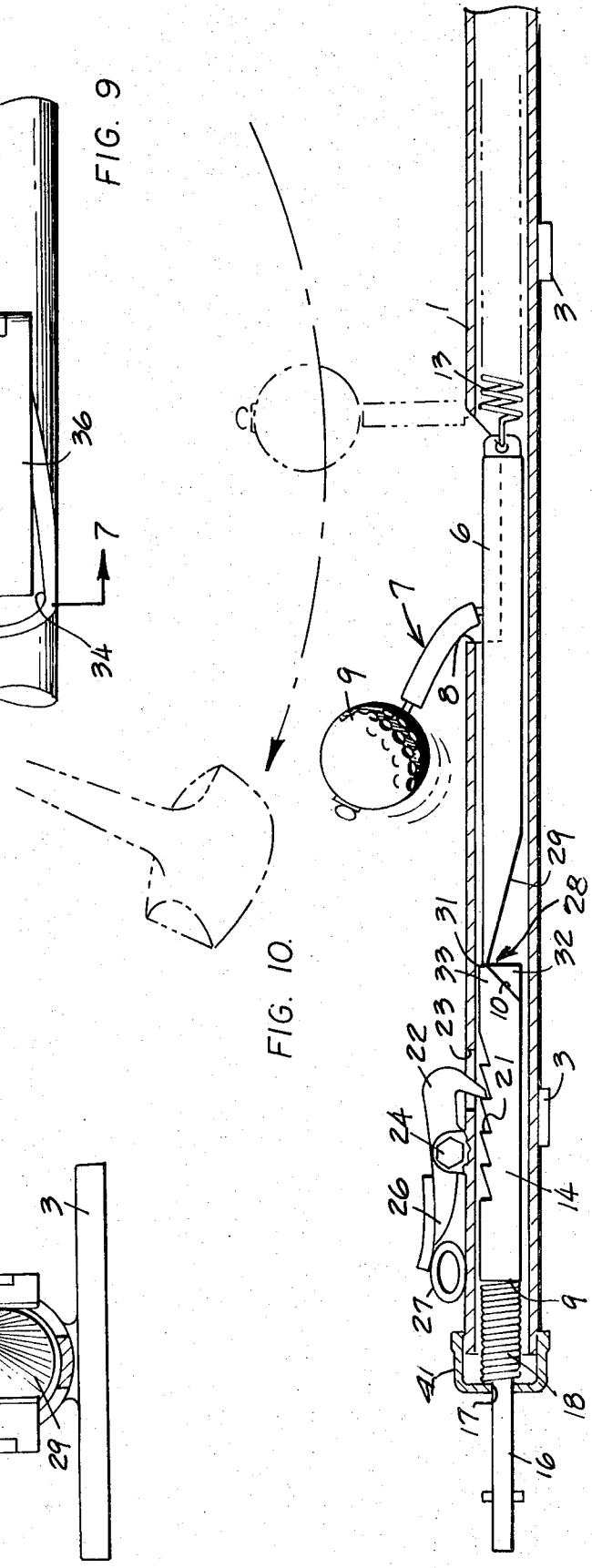


FIG. 10.

GOLF PRACTICE DEVICE

BACKGROUND OF THE INVENTION

While several golf practice devices for distance indication were heretofore developed, the object of the present invention is to provide an improved golf practice device which indicates not only the distance by the force of impact but also varies the distance indication according to the direction in which the practice golf ball is struck, and also simultaneously indicates the direction of departure from the straight line stroke in striking the ball.

Another object of the invention is to provide a simple portable device with the minimum number of parts which operates positively for the indication of the force and direction of the stroke of the golfer.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view illustrating the position of the golf practice device in relation to the golfer.

FIG. 2 is a perspective view on a slightly enlarged scale of the golf practice device.

FIG. 3 is a fragmental end view of the indicator end of the device.

FIG. 4 is a further enlarged fragmental partly sectional plan view showing the lateral indicator and the pawl release.

FIG. 5 is a sectional longitudinal view of the device.

FIG. 6 is a fragmental sectional longitudinal view of the device on an enlarged scale.

FIG. 7 is cross-sectional view of the device showing the lateral indicator on one side in indicating position, the section being taken on lines 7—7 of FIG. 9.

FIG. 8 is a fragmental sectional view showing the lateral indication.

FIG. 9 is a fragmental side view showing the lateral indicator.

FIG. 10 is a longitudinal sectional view of the device at the time of the impact.

DETAILED DESCRIPTION

A tubular casing **1** is mounted by bolts **2** through flanges **3** to a base **4**, which in the present form is a pad. A tee bar **6** is reciprocable and also turnable in the tubular casing. A tee stem **7** extends from the tee bar **6** through a longitudinal slot **8** in the top of the tubular casing **1**. The slot **8** is wider than the stem **7** so as to allow limited movement of the stem sidewise. A golf ball **9** is suitably mounted on the free end of the tee stem **7** spaced above the top of the tubular casing **1**. The tee stem **7** is flexible, but of sufficient stiffness to move the tee bar **6** when the ball is struck. As shown in FIG. **6** a stiff cable **11** is anchored in the tee bar **6** and a stiff rubber sleeve **12** surrounds the portion of the cable **11** between the casing **1** and the golf ball **9**. A coil spring **13** in the adjacent end of the tubular casing **1** normally pulls the tee bar **6** into the initial position where the tee stem **7** abuts against the end of slot **8**.

An indicator bar **14** in the casing **1** is spaced from the end of the tee bar **6** in the initial position to a distance less than the length of the slot **8**. An indicator finger **16** projects from the indicator bar **14** through a hole **17** in the indicator end of the casing **1**. The indicator finger **16** and the hole **17** are of rectangular cross section to prevent the turning of the indicator bar **14**. A coil

spring **18** between the indicator and the casing **1** and a shoulder **19** of the indicator bar **14** normally urges the indicator **14** into an initial position. On the top of the indicator bar **14** are a plurality of teeth **21** engageable by a pawl **22** through a slot **23** in the casing **1** as shown in FIG. **5**. The pawl **22** is pivoted on a pivot **24** mounted on the top of the casing **1** and a lever **26** of said pawl **22** is engaged by a resilient element such as a tubular rubber cushion **27** to hold the pawl **22** in engagement with one of the teeth **21**. When the indicator bar **14** is struck by the tee bar **6** the impact moves the indicator bar **21** against the action of the spring **18**, and the teeth **21** are so slanted as to push the pawl **22** out of the way and pass the pawl, thereby to be engaged and held by the pawl **22** in the indicating position. By stepping on the lever **26** the pawl **22** can be released so that the spring **18** can return the indicator bar **14** to its initial position.

The striking end **28** of the tee bar **6** has a tapered side **29** tapering upwardly to a striking point **31** which is offset from the center of the axis of the tee bar **6** as well as from the axis of the indicator bar **14**. The striking end of the indicator bar **14** also has an upwardly tapered side **10** and has a resiliently compressible pad **32** which covers the tapered side **10** and fills the area corresponding to the cutaway area below the offset point **31** of the tee bar **6**. The initial registry of the tee bar **6** and the indicator bar **14** is such that the striking point **31** is in registry with the hard metal offset point **33** at the striking end of the indicator bar **14**. Thus when the golf ball **9** is struck by a correct forward stroke the striking point **31** strikes the hard point **33** of the indicator bar **14** and the impact propels the indicator bar **14** toward the indicator end of the casing **1**. When the ball **9** is struck by a stroke which turns the tee bar **6** to one side or the other, the point **31** strikes the resilient pad **32** hence the impact is correspondingly reduced in force and the indicator bar **14** is propelled to a shorter distance.

The spring **13** is anchored on a cap **39** which is threaded on the striking end of the casing **1**. The other spring **18** bears against a similar cap **41** threaded on the indicator end of the casing **1**. The tension of each spring can be adjusted by adjusting the respective cap and the device can be adjusted to the average length of drive by the golfer.

For indicating the direction to which side the tee bar **6** is turned by the stroke, a lateral indicator device is provided. In the present illustration a side slot **34** on each side of the casing **1** adjacent the respective edges of the tapered side **29** is covered by a plate which is pivoted on a vertical tight hinge **37** at the end of the slot **34** nearer to the striking end of the casing **1**, as shown in FIG. **8**. Each plate **37** is shorter than the adjacent slot so that the free end **38** of each plate **37** projects inwardly of the casing **1**. Each slot **34** is shorter than the length of the tapered side **29** and the spacing of the slots **34** from the striking end of the indicator bar in its initial position is such that when the point **31** strikes the point **33** of the indicator bar **14**, the tapered side **29** travels a comparatively short distance between the plates **36** without disturbing the initial position of the plate **36**. But when the striking bar **6** is turned to one side or the other then the top of the point **31** travels along the adjacent plate **37** and pushes that plate outwardly as shown in FIGS. **7**, **8** and **9** thereby indicating the direction in which the ball was pushed or pulled by

the stroke of the golfer. After the tee bar **8** is returned to the initial position, the golfer can push the plate **36** back into its slot **34.** Also the golfer by stepping on the lever **26** can release the indicator bar **14** thereby to return it into its initial position.

The device is simple in structure and in operation and it can give good comparative indication of the effectiveness of the stroke of the golfer and also can indicate the cause for the less effective stroke because of incorrect striking of the ball; it is equally adapted for indoor or outdoor use.

I claim:

1. In a golf practice device,
a guide casing,
a striking element reciprocable in the casing,
a golf ball,
means to connect said golf ball to said striking element so as to move said striking element according to the force of striking the ball,
first resiliently yieldable means to hold said striking element in an initial position,
an indicator element reciprocable in said casing,
second resiliently yieldable means to hold said indicator element in an initial position aligned with and spaced to an abuttable distance from said striking element,
and a calibrated indicator extended from said indicator element to the outside of said casing for indicating the distance corresponding to the force of impact transmitted through said striking element to said indicator element when said golf ball is struck.

2. The device specified in claim **1,** and
said means to connect said golf ball being resiliently flexible normally to urge said golf ball into an initial teed position.

3. The device specified in claim **1,** and
a striking point on the end of the striking element pointing toward said indicator element and being offset from the center of said end,
an abutment point on the end of the indicator element opposite to and in registry with said striking point,
said striking element being held in said casing with freedom of limited rotation thereby to move said striking point out of said registering position when said golf ball is struck so as to turn said striking element and thereby to abut said indicator element at an abutment area spaced from said abutment point and to reduce the force of the transmitted impact.

4. The device specified in claim **3,** and
a resiliently compressible cushion on said abutment area of the abutment end of said indicator element for cushioning unregistered abutting by said striking point.

5. The device specified in claim **3,** and
means to hold said indicator element against rotation.

6. The device specified in claim **3,** and
said striking element being a tee-bar rotatable in said casing,
there being an elongate guide slot on said casing, and said means to connect said golf ball being a stem slidably extended through said slot,
said guide slot being wider than the thickness of said stem to permit limited lateral movement of the stem whenever said golf ball is driven sidewise, thereby to rotate said tee-bar to move said striking point out of registering position.

7. The device specified in claim **6,** and
a resiliently compressible cushion on said abutment area offset from said abutment point to cushion an unregistered abutting by said striking point.

8. The device specified in claim **6,** and
coacting means on said casing and on said tee-bar to indicate the extent of turning of said tee-bar when reciprocated in a rotated attitude.

9. The device specified in claim **6,** and
an eccentric tapered portion of said tee-bar tapering toward said striking point,
and a movable indicator member on each side of said casing along said tapered portion being engageable by the portion of said tee-bar adjacent said striking point when said tee-bar is rotated thereby to indicate the annular offset of said tee-bar.

10. The device specified in claim **6,** and
said first resiliently yieldable means being a first coil spring engaging the tee-bar,
said second resiliently yieldable means being a second coil spring engaging a portion of said indicator element and said casing,
a first adjustable element on said casing engaging said first spring for adjusting the resiliency thereof,
and a second adjustable element on said casing engaging said second spring for adjusting the resiliency thereof.

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