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GOLF CLUB VELOCITY INDICATING DEVICE

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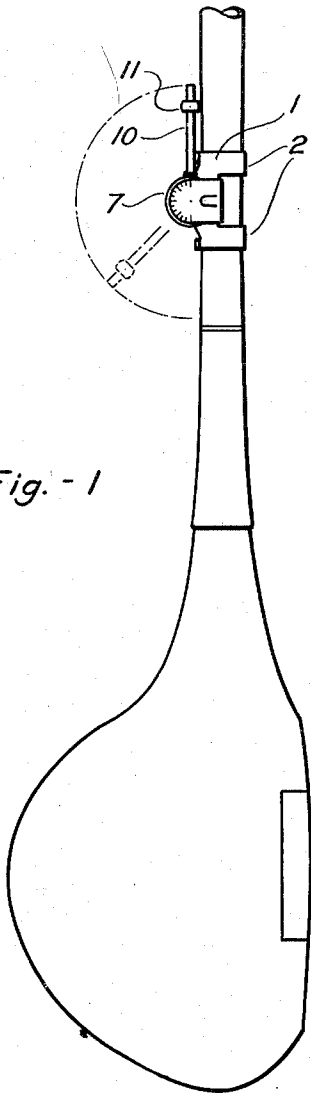


Fig. - 1

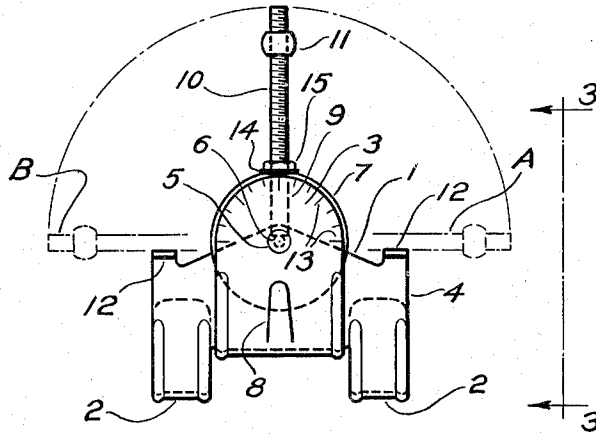


Fig. - 2

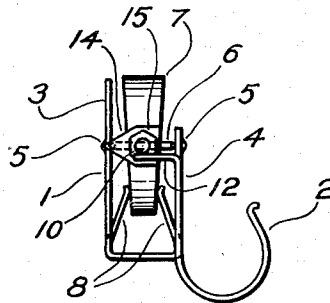


Fig. - 3

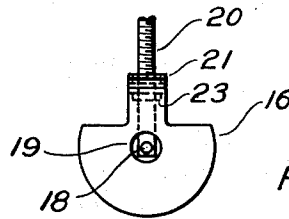


Fig. - 4

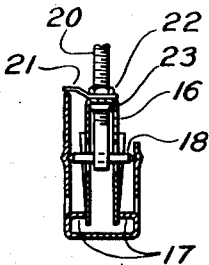


Fig. - 5

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GOLF CLUB VELOCITY INDICATING DEVICE

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4 Claims. (Cl. 73—379)

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This invention relates to devices for timing the swing of a golf club and has for its principal object the provision of a device that will enable a person to ascertain the comparative velocities of a golf club head when a number of swings are made.

Another object of my invention is the provision of a device that is relatively small as compared to a standard golf club, and is also of negligible weight.

A further object of the invention is the provision of a device, as described, that will be economical to manufacture, and one that can be used by either right-handed or left-handed golfers.

It is a well established fact that the swing that propels a golf ball the maximum distance, has for its main characteristic the attainment of maximum club head speed at the moment of impact with the ball. Acquiring such a swing calls for a high degree of muscular coordination, involving body movement, arm movement, and wrist action, and is commonly referred to as timing. The great majority of would-be golfers are prone to exert all their effort before the club head reaches what is known as the hitting area, and consequently the force applied is wasted, and the desired club head speed is never realized.

My device will enable a person to swing a golf club a number of times, and by checking the indicator each time, determine just how to swing a club in order to attain maximum club head speed.

The mode of obtaining the aforesaid results will become apparent during the course of the following description, and appended claims taken in connection with the accompanying drawing forming a part hereof.

In the drawing:

Figure 1 is an illustration of the driving end of a golf club, the line of sight being perpendicular to the shaft, and showing my device clipped in place on the shaft.

Figure 2 is an elevation of an embodiment of my device, the extent of the travel of the swinging arm being indicated in phantom.

Figure 3 is an end elevation of the device as shown in Figure 2 viewed from line 3—3. The swinging arm being shown in the retracted position and the adjustable weight being omitted.

Figure 4 is a modified design of the rotatable wedge incorporating the spring characteristics in its construction.

Figure 5 is a sectional elevation through the center of the device showing the modified construction.

Referring to the drawing in detail, a supporting structure in the form of a bracket member 1, preferably stamped or punched out, and made of thin gauge sheet spring steel is provided with a

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pair of aligned hooks or clips 2 adapted to clip onto the shaft of a standard golf club as indicated in Figure 1. The center portion of the bracket member 1 is formed into a substantially channel shaped section comprising an upstanding front wall 3 and a relatively shorter but wider back wall 4.

Walls 3 and 4 have stamped therein, depressions 5 facing one another and in axial alignment, and adapted to form centers for pivot pin 6. Pin 6 is of such a length that it can be forced into position between the resilient walls 3 and 4, and when in place, is free to turn without any looseness.

Fixedly mounted on the pivot pin 6, and adapted to rotate therewith, is a wedge, shown as a wedge shaped disc 7 which is disposed between a pair of opposing cantilever leaf springs 8, punched out of the walls 3 and 4. Wedge 7 is provided with a threaded hole 9 located centrally with reference to the sides of the disc, and extending generally radially from the rim to the center. The tapped hole 9 is more specifically described as being located in the only parallel diametrical transverse plane of the disc or perpendicular to the plane which cuts the disc at its greatest and smallest thicknesses.

Engaging the tapped hole 9 is a threaded arm 10 which acts as a set screw by being tightened to seat on pin 6, and constitutes a swinging arm with an adjustable weight 11. The adjustable weight 11 is tapped to engage the threaded arm 10, and is adapted to change the center of gravity of the pivotal assembly by a change of its position on the arm 10.

Extending outwardly from the back wall 4, across the path of the swinging arm 10, are a pair of stops 12 so located as to limit the travel of the swinging arm 10 to 180 degrees as shown on Figure 2.

When the arm 10 is in the position as shown at A on Figure 2 the thinnest section of the wedge 7 is located between springs 8 which in this position exert a negligible pressure. As the wedge 7 is rotated, the springs 8 are forced apart until they reach a maximum upon the arm 10 reaching position B on Figure 2. It will be apparent that a progressively increasing force is expended in rotating the assembly from position A to position B.

The front wall 3 terminates at its upper end in a semi-circle which is concentric with the center point 5, and the border of the semi-circular portion is marked with a number of graduations 13. A pointer 14 secured to disc 7 by the arm 10 and nut 15, is adapted to register with the graduations 13.

With reference to Figures 4 and 5, the modified disc 16 has the same general wedge shape as disc 7, but is formed of sheet metal, preferably spring

steel, and it will therefore resist any effort to turn it between the fixed projections 17, simulating the effect of the combination of disc 7 and springs 8.

Pivot pin 18 passes loosely through holes 19 in disc 16, but fits tightly in the hole through the arm 20.

Pointer 21 is secured in place on the disc 16 by nuts 22 and 23.

In operation, the device is clipped onto the shaft of a standard golf club, and the club is then swung. The centrifugal force imparted to the swinging arm of the device by the motion of the club, will cause it to swing from the position A to a point approaching position B. By observing the position of the indicator with each successive swing, the swinger of the club is enabled to determine for himself the most efficient method.

Should the arm swing through its entire travel, this can be corrected by means of the adjustable weight, for, by advancing it toward the center of pivot, the radius of gyration is shortened, and the travel of the arm will be accordingly restricted.

In order to adapt the device to suit a left handed person, it is only necessary to snap the rotatable assembly out of place, reverse it and replace it. Position A then becomes position B and vice versa.

From the foregoing, it will be apparent that I have provided an extremely useful device of the character described, one which is very compact and which can be cheaply manufactured. While I have disclosed a preferred embodiment of my invention, it will be understood that modifications may be made within the spirit and scope of the appended claims.

I claim:

1. A swing velocity indicator for golf clubs, comprising a supporting structure designed for attachment to the shaft of the club, a wedge pivotally mounted on said structure, and having a weighted rod extending generally outwardly from the pivotal axis of the wedge, an inwardly projecting member carried by said supporting structure and having a portion in frictional contact with the inclined face of said wedge, said member being yieldably urged toward the wedge, and an indicator actuated by said wedge.

2. A swing velocity indicator for golf clubs, comprising a supporting structure designed for attachment to the shank of a golf club, a member

pivoted on said structure, said member having at least one face inclined, a weighted arm attached to said member and extending generally outwardly from the pivotal axis thereof, a spring carried by the supporting structure, and having one end urged against the inclined face of said member, and indicator means to register movement of said arm.

3. A swing velocity indicator for golf clubs, comprising a structure designed for attachment to the shank of a golf club, a member pivotally mounted on said structure, an arm connected to said member and extending generally outwardly from the pivotal axis thereof for pivotally displacing said member in response to the velocity of the swing of the club, said member including at least one resilient cam surface movable therewith, a projection mounted on said supporting structure and contacting said cam surface to effect displacement thereof upon movement of said member, and an indicator adapted to register movement of said arm.

4. A swing velocity indicator for golf clubs, comprising a supporting structure designed for attachment to the shank of a golf club, a member pivoted on said structure, an arm connected to said member and extending generally outwardly from the pivotal axis thereof for pivotally displacing said member in response to the velocity of the swing of the club, said member including at least one cam surface movable therewith, a projection mounted on said supporting structure and having a surface contacting said cam surface, at least one of said surfaces being resiliently displaceable upon movement of said member, and an indicator adapted to register movement of said arm.

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The following references are of record in the file of this patent:

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