SYSTEM FOR IMPRINTING THE POINT OF CONTACT OF A GOLF BALL ON A GOLF CLUB HEAD

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ABSTRACT

Some embodiments of the present disclosure include a marking system for marking the point of contact between a golf ball and a golf club head. The system may include a golf ball having an outer surface, and a marking material coating at least a portion of the outer surface of the golf ball, the marking material being capable of being transferred from the golf ball to the golf club head upon the instrument striking the golf ball at a transfer force. However, the marking material may not transfer from the golf ball to another object at a force less than the transfer force. In some embodiments, the marking material may be a mixture of blue solvent ink, alcohol, and ether.
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RELATED APPLICATION

[0001] This application claims priority to provisional patent application U.S. Ser. No. 61/926,858 filed on Jan. 13, 2014, the entire contents of which is herein incorporated by reference.

BACKGROUND

[0002] The embodiments herein relate generally to projectiles, and more particularly, to system for imprinting the point of contact of a golf ball on golf club head used to impart force on the golf ball.

[0003] In golf, the place that the ball contacts the golf club head determines how the ball will travel. For example, if a golf club head hits a golf ball outside of the center or “sweet spot” of the golf club head, then the golf ball will not travel as far as it could if the golf club head had hit the golf ball in the sweet spot of the golf club head. Small variations in a golfer’s stance and swing can affect where the golf club head will make contact with the golf ball and, therefore, affect the distance and direction of a golf ball once it is hit. Standing too close or too far away from the ball is one example of a variation that may change the point of contact of the golf club head and the golf ball. Another example is seeing the ball too high or too low. The angle of the club head when it hits the ball also affects the flight of the ball by adding spin to the ball, thus resulting in curvature in flight, also known as a slice (a curve to the right) or a hook (a curve to the left).

[0004] Therefore, what is needed is a system that allows an individual to see the exact point of contact between the golf club head and the ball.

SUMMARY

[0005] Some embodiments of the present disclosure include a marking system for marking the point of contact between a golf ball and a golf club head. The system may include a golf ball having an outer surface, and a marking material coating at least a portion of the outer surface of the golf ball, the marking material being capable of being transferred from the golf ball to the golf club head upon the instrument striking the golf ball at a transfer force. However, the marking material may not transfer from the golf ball to another object at a force less than the transfer force. In some embodiments, the marking material may be a mixture of blue solvent ink, alcohol, and ether.

BRIEF DESCRIPTION OF THE FIGURES

[0006] The detailed description of some embodiments of the invention is made below with reference to the accompanying figures, wherein like numerals represent corresponding parts of the figures.

[0007] FIG. 1 is a perspective view of one embodiment of the present invention.

[0008] FIG. 2 is a perspective view of one embodiment of the present invention showing pre-impact.

[0009] FIG. 3 is a perspective view of one embodiment of the present invention showing pre-impact.

[0010] FIG. 4 is a perspective view of one embodiment of the present invention showing post-impact.

[0011] In the following detailed description of the invention, numerous details, examples, and embodiments of the invention are described. However, it will be clear and apparent to one skilled in the art that the invention is not limited to the embodiments set forth and that the invention can be adapted for any of several applications.

[0012] The marking of the present disclosure may be used to mark the point of contact between a golf ball and a golf club head on the golf club head and may comprise the following elements. This list of possible constituent elements is intended to be exemplary only, and it is not intended that this list be used to limit the scope of the present invention. Persons having skill in the art relevant to the present disclosure may use the same elements that may be substituted within the present disclosure without changing the essential function or operation of the device.

[0013] 1. Golf Ball

[0014] 2. Ink

[0015] 3. Golf Club Head

[0016] The various elements of the marking system for marking the point of contact between a golf ball and a golf club head of the present disclosure may be related in the following exemplary fashion. It is not intended to limit the scope or nature of the relationships between the various elements and the following examples are presented as illustrative examples only.

[0017] By way of example, and referring to FIGS. 1-4, some embodiments of the marking system of the present disclosure comprise a golf ball 12 comprising an outer surface, the outer surface being at least partially coated with a marking material 14 that is transferable upon a sufficient amount of pressure being applied to the golf ball 12. Embodiments of the marking system include a coating on at least a portion of the ball 12, but do not require modifying the structure of the ball 12. The ball 12 may be partially coated with a marking material. In other embodiments, the marking material 12 may fully cover the outer surface of the ball 12. Additionally, the marking material 12 may be applied in any desired shape and at any desired location on the outer surface of the ball 12.

[0018] In further embodiments, the marking material 12 may be incorporated into the material used to make the outer surface, such that the marking material 12 does not need to be applied after the golf ball 12 has been manufactured.

[0019] As shown, for example, in FIGS. 2-4, when an impact surface 16 of the golf ball 12 makes contact with the golf ball 12 with sufficient force, the marking material 14 transfers from the golf ball 12 to the impact surface 16. If desired, a user may then analyze the marking to determine how to improve his or her swing to make contact between the golf club head 10 and the golf ball 12 at the golf ball’s sweet spot. In embodiments, the marking material 14 may not transfer from the golf ball 12 to a user’s hands during normal handling, but rather may only transfer to the impact surface 16 when the golf club head 10 makes contact with the golf ball 12 at a sufficient force or transfer force. In other words, the marking material 14 may not transfer from the golf ball 12 to another object at a force less than the transfer force. In some embodiments, the amount of force needed to transfer the marking material 14 from the golf ball 12 to the impact surface 16 may be from about 500 to about 2000 Newtons.
The marking material 14 may comprise any suitable ink or dye material that transfers to the impact surface 16 upon contact between the golf club head 10 and the golf ball 12 at a sufficient force. Suitable marking material may also not tamper with the flight of the golf ball 12 or the golf club’s swing or impact. In some embodiments, the marking material 14 may also be removable from the instrument. Moreover, the marking material 14 may be reusable, meaning that the impact surface 16 may strike the golf ball 12 a number of times with the marking material 14 sufficiently transferring from the golf ball 12 to the impact surface 16 without needing to be reapplied. For example, the marking material 14 may be reusable 10 or more times and still provide a valuable imprint on the contact point between the impact surface 16 and the golf ball 12.

In some embodiments, the marking material 14 may comprise a permanent ink, such as that present in a permanent marker. Additionally, the marking material 14 may be any color that is visible on the impact surface 16. The marking material 14 may be removable from the impact surface 16 by cleaning the impact surface 16 with a cleaning solution, such as rubbing alcohol or nail polish remover.

In a particular embodiment, the marking material 14 may comprise an ink comprising blue solvent ink, alcohol, and ether, wherein the blue solvent ink comprises a mixture of glycol ether, alcohol/ethanol, and Indigoid B, which is a reactive pigment. For example, the marking material 14 may comprise about 1 to about 10 teaspoons blue solvent ink, about ¼ cup to about 1 cup alcohol, and about 1 drop to about 20 drops ether. A particular marking material 14 may comprise about 1 teaspoon blue solvent ink, about ¼ cup alcohol, and about 7 to about 8 drops ether.

The marking material 14 may either be incorporated into the outer casing of a golf ball or may be applied to the outer casing after the golf ball has been manufactured. For example, the marking material 14 may be brushed, sprayed, drawn, or otherwise applied onto the outer casing. The user may then use the golf ball 12 as normal, making sure to have the surface of the golf ball that includes the marking material 14 facing the direction that the impact surface 16 will contact the golf ball 12. Based on the location of the imprint on the impact surface 14, a golfer may be able to adjust his or her stance or swing to improve the distance and direction achieved by the golf ball. In any case, the marking material 14 may be applied in such a thin coating as to not affect the performance of the ball 12 in flight. Thus, application and use of the marking material 14 does not result in a modification of the impact surface 16 on the golf club head 10.

While the marking system is described with respect to a golf ball and golf club head, the marking system may be used for any number of projectiles, such as baseballs, hockey pucks, tennis balls, and the like.

Persons of ordinary skill in the art may appreciate that numerous design configurations may be possible to enjoy the functional benefits of the inventive systems. Thus, given the wide variety of configurations and arrangements of embodiments of the present invention the scope of the invention is reflected by the breadth of the claims below rather than narrowed by the embodiments described above.

What is claimed is:
1. A marking system for marking the point of contact between a projectile and an instrument used to strike the projectile, the system comprising:
a projectile having an outer surface; and
a marking material coating at least a portion of the outer surface of the projectile,
wherein:
the marking material is capable of being transferred from the projectile to the instrument upon the instrument striking the projectile at a transfer force, the marking material marking the point of contact of the projectile on the instrument; and
the marking material does not transfer from the projectile to another object at a force less than the transfer force.
2. The marking system of claim 1, wherein the projectile is a golf ball and the instrument is a golf club head.
3. The marking system of claim 1, wherein the marking material comprises blue solvent ink, alcohol, and ether.
4. The marking system of claim 3, wherein the blue solvent ink comprises a combination of glycol ether, alcohol/ethanol, and Indigoid B.
5. The marking system of claim 1, wherein the marking material comprises:
about 1 to about 10 teaspoons blue solvent ink;
about ¼ cup to about 1 cup alcohol; and
about 1 drop to about 20 drops ether.
6. The marking system of claim 5, wherein the marking material comprises:
about 1 teaspoon blue solvent ink;
about ¼ cup alcohol; and
about 7 to about 8 drops ether.
7. The marking system of claim 1, wherein the transfer force is from about 500 to about 2000 Newtons.
8. A marking system for marking the point of contact between a golf ball and a golf club head, the system comprising:
a golf ball having an outer surface; and
a marking material coating at least a portion of the outer surface of the golf ball, wherein:
the marking material comprises blue solvent ink, alcohol, and ether;
the marking material is capable of being transferred from the golf ball to the golf club head upon the instrument striking the golf ball at a transfer force, the marking material marking the point of contact of the golf ball on an impact surface of the golf club head;
the marking material does not transfer from the golf ball to another object at a force less than the transfer force; and
the transfer force is from about 500 to about 2000 Newtons.
9. The marking system of claim 8, wherein the marking material comprises:
about 1 to about 10 teaspoons blue solvent ink;
about ¼ cup to about 1 cup alcohol; and
about 1 drop to about 20 drops ether.
10. The marking system of claim 8, wherein the marking material covers an entire outer surface of the golf ball.

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