June 18, 1935. L. A. STORZ 2,005,401

GOLF CLUB

Filed May 20, 1933

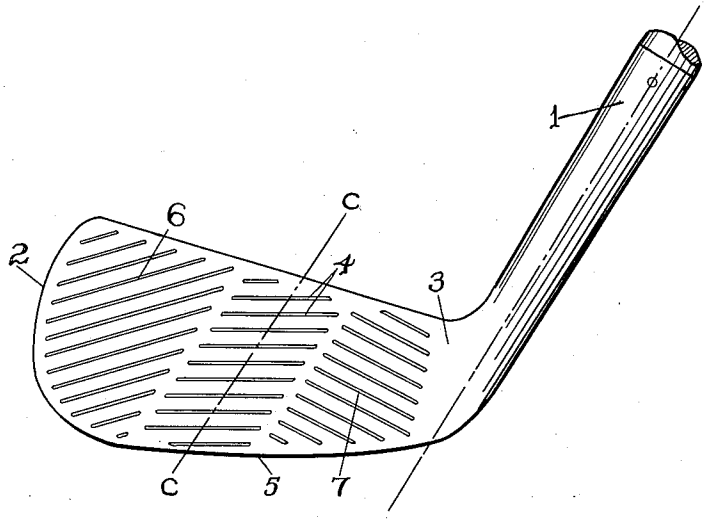

Fig. 1

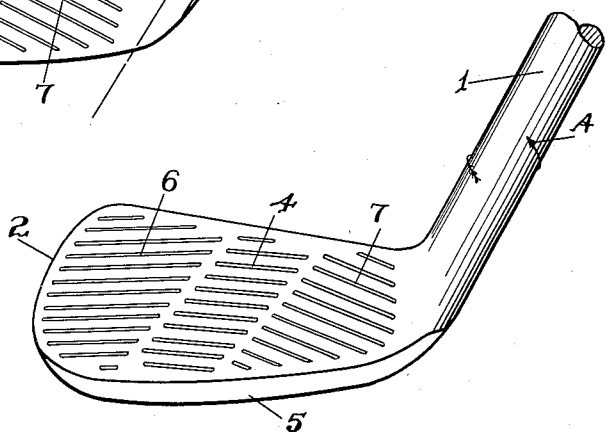

Fig. 2

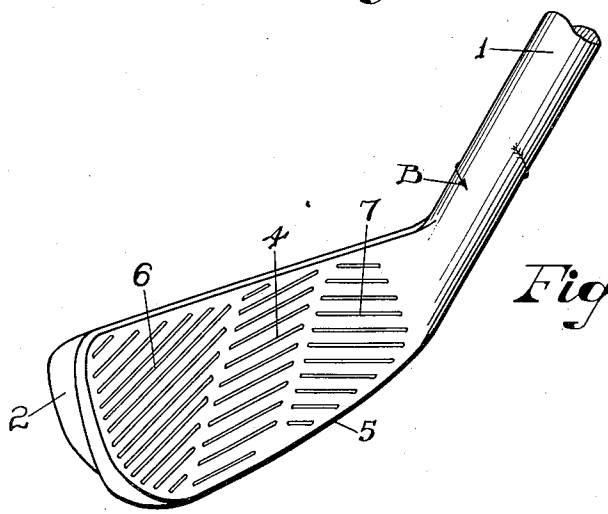

Fig. 3

Inventor
Leon A. Storz

By Geo. H. Kennedy Jr.
Attorney

Patented June 18, 1935 2,005,401

UNITED STATES PATENT OFFICE

2,005,401

GOLF CLUB

Leon A. Storz, Worcester, Mass.

Application May 20, 1933, Serial No. 672,069

3 Claims. (Cl. 273—77)

The present invention relates to golf clubs, and more particularly to the markings or scorings on the hitting faces of such clubs,—such markings or scorings (provided they do not exceed a certain depth and that they are spaced sufficiently from one another) being permissible under the rules of golf and being in general use to prevent undue slippage between club face and ball and to give the ball a limited amount of "backspin."

The ordinary face markings for this purpose consist usually of either a plurality of shallow grooves or a plurality of rows of light indentations,—in both cases running lengthwise of the club face and substantially parallel, for the most part at least, with the sole or ground-engaging edge of the club head. Such markings, however, only obtain in full measure the desired effects when the path of the head, at the bottom of the swing, is cut at right angles by the plane of the hitting face; if said hitting face, at the moment of impact with the ball, cuts obliquely, rather than at right angles across the head's path (or intended line of ball flight), then such conventional markings cannot ordinarily function efficiently for the production of backspin, because they do not engage the ball squarely, and because they are in effect not in parallelism with the ground on which the ball rests.

My invention, as hereinafter described, overcomes these difficulties by a novel arrangement of markings or scorings that obtains the desired backspin in shots where the club face plane cuts obliquely across the club head path, at or near the bottom of the swing, thereby, as hereinafter described, providing a corrective for an imperfectly-executed swing. Other and further objects and advantages of the invention will be made apparent by the following detailed description thereof, taken in connection with the accompanying drawing, in which—

Fig. 1 is a full face view in front elevation of a club head, having the markings or scorings of my invention.

Figs. 2 and 3 are foreshortened views of the same head as it appears, respectively, in a faced-back condition and in a faced-forward condition.

Like reference characters refer to like parts in the different figures.

I have chosen for the illustration of my invention a golf club incorporating the invention of Ogg and Storz Patent No. 1,917,774, dated July 11, 1933, wherein a redistribution (not shown herein) of the club head weight (as by decreasing the weight of the hosel 1 and increasing the section at the toe portion 2 of the blade) shifts outwardly materially on the club face the axis *c, c* of turning moment balance,—in such manner that the spot or zone of maximum hitting effect, instead of being relatively close to the inner or heel portion 3 of the club face, as in all conventional clubs, occupies a substantially central position on the club face; this zone or location, in the immediate vicinity of and on both sides of the axis *c, c* is defined, according to my invention, by the set of relatively short markings or scorings 4, 4, these taking the usual form of shallow grooves or rows of light indentations that are substantially parallel to the sole 5 of the head. The markings or scorings 4, 4 extend on opposite sides of the axis *c, c* for substantially equal distances, and they cover and include an area substantially in the center of the hitting face of the head that provides the spot or zone of maximum hitting effect, as set forth in the aforesaid patent.

Beyond or outwardly of the substantially horizontal markings 4, 4, the club face, according to my invention, provides other markings 6, 6, these also taking the form of parallel shallow grooves or rows of light indentations, but being inclined at a slight angle relative to the markings 4, 4, as shown in the full face view of Fig. 1. This inclination of these outer markings 6, 6 is such as to compensate for the errors in a player's swing that cause the club face, at the moment of impact with the ball, to assume the position shown in the foreshortened view of Fig. 2, that is, with the toe portion lagging behind, on account of too much turning of the shaft axis in the direction of the arrow A on Fig. 2. When the club head, at or near the bottom of the player's swing, occupies this oblique or faced-back position shown in Fig. 2, the impact with the ball is made almost invariably by the outer or toe portion of the hitting face, namely, the portion provided with the markings 6, 6. Such markings 6, 6, though normally inclined, are thrown, under the conditions above described, into substantially horizontal position, and hence are able to impart to the ball practically as much backspin as would have been imparted under the most favorable conditions,—that is, with the undeflected club face engaging the ball in the zone of the markings 4, 4.

Inwardly of the markings 4, 4, the club face, according to my invention, provides other markings 7, 7, these taking the usual form of parallel shallow grooves or rows of light indentations, but being inclined at a slight angle relative to the

markings 4, 4, and in the opposite direction from the markings 6, 6, as shown in the full face view of Fig. 1. This inclination of these inner markings 7, 7 is such as to compensate for errors in a player's swing that cause the club face, at the moment of impact, to assume the position shown in the foreshortened view of Fig. 3,—that is, with the outer or toe portion ahead of the socket or hosel 1 (by too much turning in the direction of arrow B), and the face tipped forwardly into a plane more nearly vertical than that occupied by the face in Fig. 1. Under these conditions, the impact with the ball is almost invariably made by the inner portion of the hitting face, and the markings 7, 7 on said inner portion, though normally inclined, as shown in Fig. 1, are thrown by this last-described deflection of the hitting face into a substantially horizontal position, as shown in Fig. 3; hence the ball, when so struck, will have imparted to it practically as much backspin as would have been imparted if it had been struck correctly by the markings 4, 4, as the result of a normal or perfect swing.

It will thus be seen that the face markings of my invention are able to impart substantially maximum backspin to the ball, regardless of whether or not the swing is properly executed, and regardless of whether or not the hitting face of the club, at the moment of impact, occupies a plane at right angles to the desired line of flight of the ball. Not only that, but said improved face markings are so arranged as to be of great benefit to the player, from the standpoint of sharply delineating and definitely indicating the zone or area of maximum hitting effect on the club face, because in addressing the ball, the player, looking down on the club face from above, is readily able to distinguish the horizontal markings 4, 4 of the central zone of the face from the inclined markings 6, 6 and 7, 7 of the outer and inner face zones, respectively.

I claim,

1. A golf club head or blade having, in a central zone of its face, scorings substantially parallel to the sole of said head, the outer zone of said face having scorings at such an inclination to the first-named scorings that when the club head arrives at the bottom of the swing in a faced-backward position (Fig. 2), said outer zone scorings, which then become effective on the ball, tend to assume a position substantially horizontal or parallel with the ground, thereby imparting substantially as much back-spin as though the ball had been struck by the central zone of the club face.

2. A golf club head or blade having, in a central zone of its face, scorings substantially parallel to the sole of said head, the inner zone of said face having scorings at such an inclination to the first-named scorings that when the club head arrives at the bottom of the swing in a faced-forward position (Fig. 3), said inner zone scorings, which then become effective on the ball, tend to assume a position substantially horizontal or parallel with the ground, thereby imparting substantially as much back-spin as though the ball had been struck by the central zone of the club face.

3. A golf club head or blade with a set of substantially horizontal face markings in a central zone thereof, there being a second set of slightly inclined markings in an outer zone of the club head face, the inclination of said second set of markings being such that they tend to assume a substantially horizontal relation when the club head at the bottom of the swing faces backwardly (Fig. 2), and there being a third set of slightly inclined markings in an inner zone of the club head face, the inclination of said third set of face markings being such that they tend to assume a substantially horizontal relation when the club head at the bottom of the swing faces forwardly (Fig. 3).

LEON A. STORZ.