Dec. 11, 1962 NAOJIRO SANO 3,068,011

HEAD OF GOLF CLUB

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Fig. 1

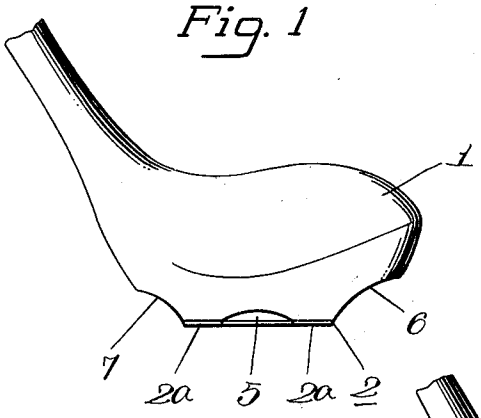


Fig. 2

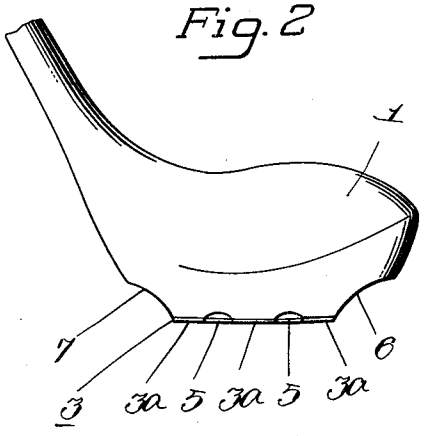


Fig. 3

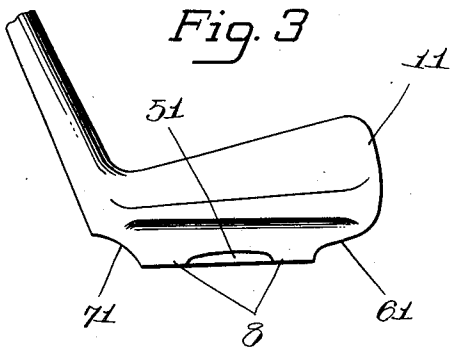


Fig. 4

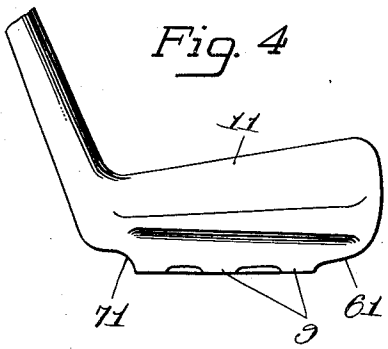
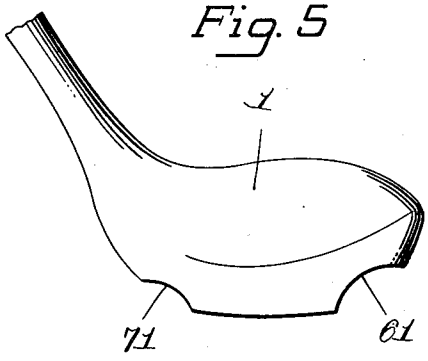


Fig. 5



Naojiro SANO

INVENTOR.

BY Leon M. Strauss ATT.

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Fig. 6

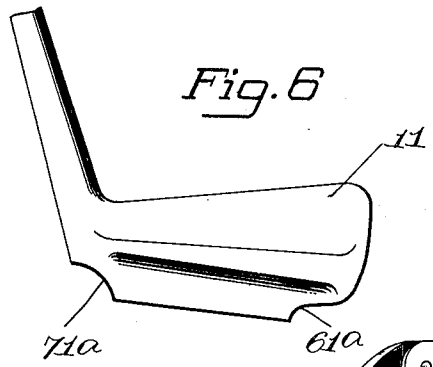


Fig. 7

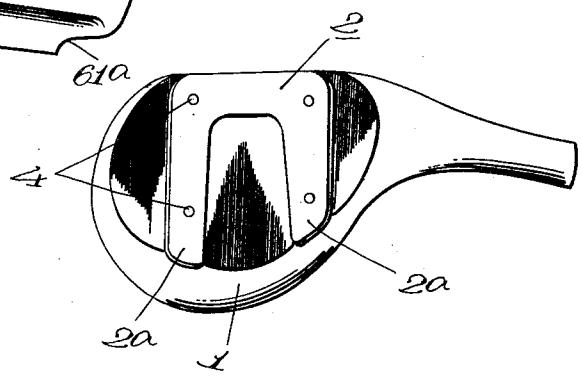


Fig. 8

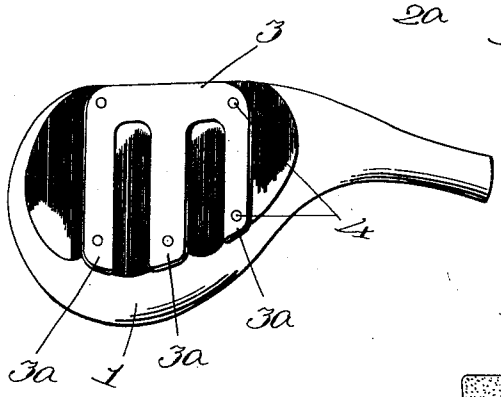


Fig. 9

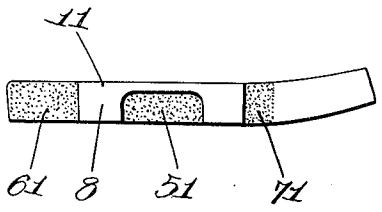
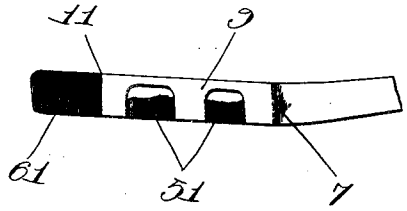


Fig. 10



Naojiro SANO

INVENTOR.

BY Leon M. Strauss ATT.

United States Patent Office

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3,068,011

HEAD OF GOLF CLUB

Naojiro Sano, 31 2-chome, Ichigaya Tamachi, Shinjuku-ku, Tokyo, Japan

Filed June 7, 1960, Ser. No. 34,499
Claims priority, application Japan June 15, 1959
1 Claim. (Cl. 273—174)

The present invention is related to a head of a golf club.

It is an object of the invention to provide a head of a golf club which is capable of minimizing the friction resistance of the same with the ground and of causing sufficient impact at the time of driving.

It is another object of the present invention to provide a head of a golf club which can minimize the fatigue of the player and with which the direction of driving of the ball can correctly be controlled.

Yet another object of the present invention is to provide a head of a golf club which can prevent the damage of the heel of the head at the time of driving, the head being constructed not to hit the ground in driving.

With these and other objects in view and hereinafter set forth, various models of embodiments of the present invention are fully described in the ensuing specification and delineated in the appended claim.

In the attached drawings wherein preferred embodiments of the present invention are illustrated;

FIG. 1 is a partial side elevation of a wood-type golf club constructed in accordance with the invention;

FIG. 2 is a view similar to FIG. 1 of another embodiment of wood-type golf club;

FIG. 3 is a partial side elevation of an iron-type golf club constructed in accordance with the invention;

FIG. 4 is a view similar to FIG. 3 of another embodiment of iron-type golf club;

FIG. 5 is a side elevation of still another embodiment of wood-type golf club;

FIG. 6 is a side elevation of still another embodiment of iron-type golf club,

FIGS. 7 and 8 are bottom plan views of the heads as shown in FIGS. 1 and 2; and

FIGS. 9 and 10 are bottom plan views of the embodiments shown in FIGS. 3 and 4, respectively.

Now explaining the present invention in details with reference to the attached drawings, in FIGS. 1, 2, 7 and 8, there are shown club heads, to the body 1 of which a metal or hard plastic plate formed in the shape of the letter "U" 2 or of a comb 3 is attached by means of screws 4. Furthermore, between each fork 2*a* or 3*a* and on both sides of said U-shaped or comb-shaped metal or plastic plate 2 or 3, there are provided a plurality of arc-shaped grooves 5 parallel to the driving direction of the club. On the heads as shown in FIGS. 3, 4, 9 and 10, at the bottom of the body 11 of the heads, there are provided a plurality of grooves 51, 61 and 71, which are parallel to the driving direction of the club, leaving a U-shaped projection 8 or a comb-shaped projection 9. Furthermore, in FIGS. 1, 2, 5 and 6, at the bottom of the body 1 or 11 of the head, there are provided end cut-outs 6 and 7, or cut-outs 61 and 71 or cut-outs 61*a* and 71*a*, which are parallel to the driving direction of the club at the front and rear ends of the head. These cut-outs begin at the opposite edges of the U-shaped plate from outside the leg portions thereof and increasingly relieving the body portion of the head material through the opposite ends of the club head body portion.

In the conventional construction of the head of a golf club, as the bottom of the head has been constructed substantially flat, the same has been subjected to friction resistance with the ground and at the same time the heel of the head has been apt to be damaged by hitting the ground in the course of driving.

The present invention is intended for removal of the above defects and according to the same, by providing the arc-shaped grooves or cut-outs at the bottom of the head as described above, the contact area of the head which actually contacts the ground is minimized to a considerable extent and there is less tendency to drive a large area of the club into the turf and thus a sufficient impact can be caused in driving the ball. Furthermore, as the friction resistance can be decreased as described above, the ball can be hit with much more easiness and accordingly the fatigue of users of the club having the head of the present invention can be prevented to a considerable extent and thus the player can always drive the ball to the exact direction enabling him to have a proper driving pose. Moreover, as the heel of the head does not touch the ground in driving, damage of the said part, which has been common in the conventional construction, can be prevented in the present invention. Furthermore, by providing the grooves or cut-outs parallel to the direction of driving, said grooves or cut-outs can act as a guide when they are brought to contact with the ground in driving, thus, always allowing the player a straight drive.

While I have illustrated and described the preferred embodiments of the invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as set forth in the appended claim.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

A golf club head comprising a body portion having a bottom face, a relatively hard flat plate overlying and secured to said bottom face and including spaced parallel leg portions which extend across said bottom face in a direction parallel to the direction of driving, said body portion having cutouts in its bottom face, one at each side of the plate and extending from one side of the bottom face to the other substantially parallel to the direction of driving and to the leg portions of the plate, said cutouts beginning at the edges of the plate and increasingly relieving the body portion of the head material through the opposite ends of the club head portion to prevent the heel and toe of the club head from engaging the ground, and an arc-shaped groove parallel to the direction of driving in the bottom face of the body portion between leg portions of the plate.

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