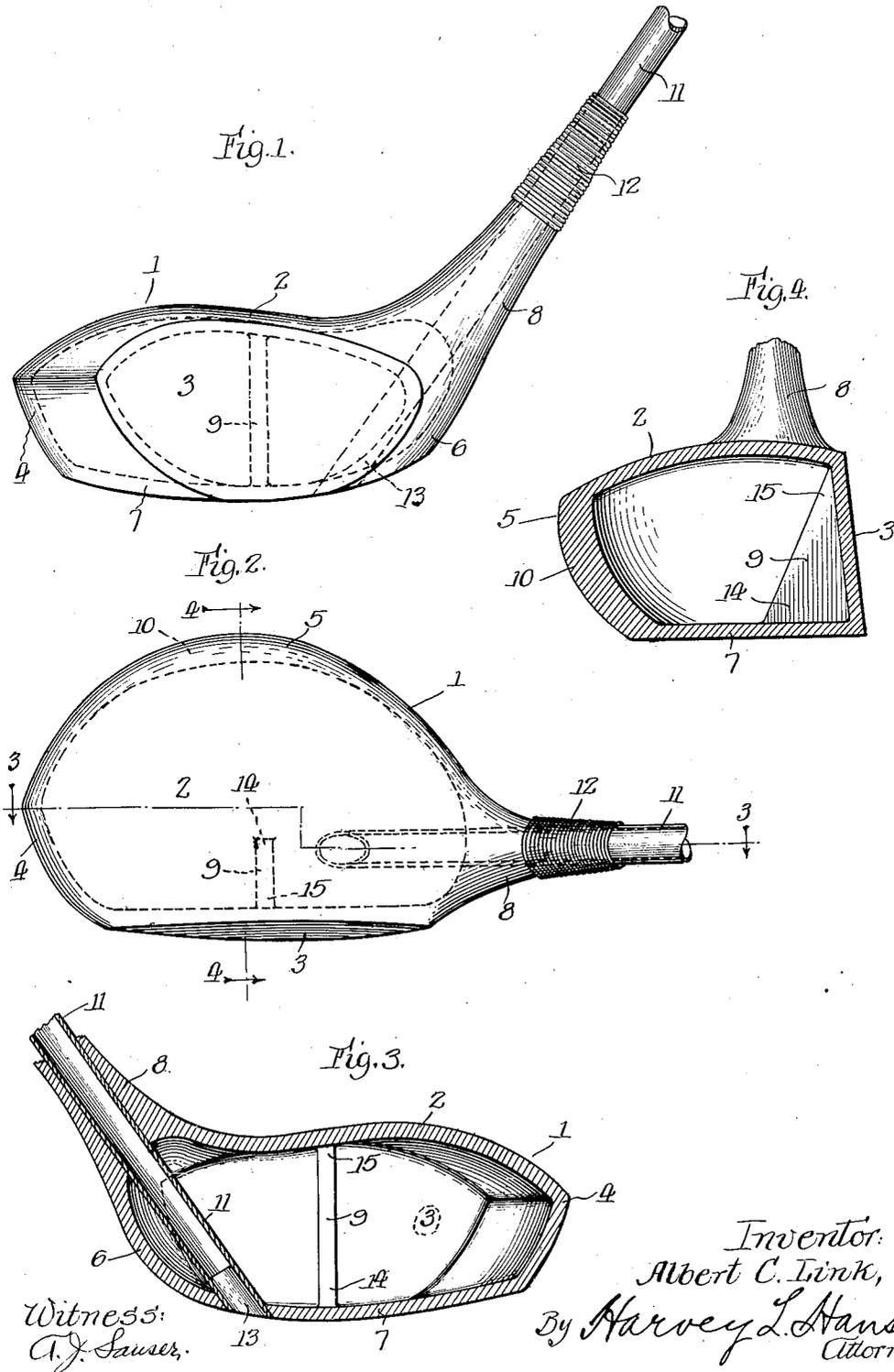


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A. C. LINK
METALLIC GOLF CLUB HEAD
Filed July 17, 1925



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UNITED STATES PATENT OFFICE.

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METALLIC GOLF-CLUB HEAD.

Application filed July 17, 1925. Serial No. 44,156.

To all whom it may concern:

Be it known that I, ALBERT C. LINK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Metallic Golf-Club Heads, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

The invention relates to metallic golf club heads, and particularly to golf club heads which are cast or molded in a single hollow unit from aluminum, or other suitable material.

The principal object of the invention is to provide a hollow metallic golf club head with a metallic abutment back of the central vertical portion of the metallic striking face of the club head.

Another object of the invention is to so construct this metallic abutment that it will serve to place a desired quantity of metal in the line of impingement between the rounded face of the golf ball and the substantially flat striking face of the golf club head so that the normal impact in playing will be at that part of the striking face supplemented and reinforced by the additional metal of the abutment.

A further object of the invention is to construct the abutment which furnishes supplemental and reinforcing metal to the striking face of the club head, in a triangular form, so that the greatest amount of metal serving to assist in the effective and solid impact between the club head and the golf ball will be normally at the lower central part of the club head and the golf ball, respectively, whereby the player is enabled to put the proper amount of metal "under" the ball to properly lift it, resulting in quick action on the resilient golf ball and in its being driven to a great distance. It has been found in actual practice that with a golf club head constructed with the invention of the triangular form abutment back of the striking face, and integrally therewith and with the sole portion of the club, and arranged in the rear of the central vertical line of the striking face, great "distance" has been secured. This is due, in a great part, to the particular form of the abutment with its relatively heavy base portion and relatively light apex portion giv-

ing the club head a proper balance, which permits the added metal to be directly in the line of impingement of the ball with the striking face of the club.

An important feature of the invention with relation to the triangular form of the abutment is that the effect of the blow of the striking face on the ball is greatest at the base portion of the triangle, and gradually diminishes to the apex of the triangle.

Another object of the invention is to construct the triangular abutment back of the striking face of the club head with varying shapes and sizes so that the weight and balance at the front or face part of the club head may be varied as may be desired.

It is a further object of the invention to construct the metallic hollow aluminum club head with a concentrated weighted portion at the back of the club so that the desired counterweight or counterbalance of the club head directly opposite the striking face may be secured.

An additional object of the invention is to construct the golf club head with a metallic abutment which is an integral part of not only the club face but the sole portion, having the major portion of the mass of the metal at the bottom of the striking face and on the sole portion to neutralize the effects of the tremendous impacts of the golf club head with the turf, ground, stones, or other matter with which the club head may come in contact.

It is a further object of the invention to construct the abutment back of the striking face transversely of and integrally therewith and with the sole portion, in such a manner as to support the striking face and prevent its distortion in any way, arising from impact with the golf ball or otherwise.

The invention may be used in all forms of golf clubs where it is desirable to have added weight and material in line with the line of impingement of the club head with the golf ball and at the base or bottom portion of the club head where added weight for lifting purposes is desired, and particularly in drivers and brassies.

The invention will be readily understood when read and considered in conjunction with the drawing submitted herewith and made a part hereof, from which it will be seen that various modifications of the in-

vention may be made in the matter of size, shape, and disposition of the parts of the golf club head without departing from the spirit of the appended claims, also forming
5 a part hereof.

In the drawings:

Figure 1 is a side elevational view of the metallic golf club head, showing the abutment of the invention in dotted lines in the vertical central portion of the striking face of the club, and showing the metallic club shaft in full and dotted lines.

Figure 2 is a top plan view of the metallic golf club head showing, in dotted lines, the abutment extending into the hollow club head.

Figure 3 is a longitudinal cross sectional view of the metallic golf club head on the line 3—3 of Figure 2, looking in the direction of the arrows, and showing the metallic abutment in elevation from the rear and also showing the metallic shaft in section, and,

Figure 4 is a transverse sectional view of the metallic golf club head on the line 4—4 of Figure 2 looking in the direction of the arrows, and showing the metallic abutment in elevation, and also showing the increased and weighting material in the back of the club.

The golf club head or shell generally designated 1 is formed in an integral unit of metal, preferably aluminum. It is therefore substantially indestructible and immune from the difficulties resulting from having parts or sections which may become loose and rattle, and also from the difficulties arising from the necessity of replacing parts of the club head. The golf club head is formed by casting or molding in the usual manner. The club head is provided with the top portion 2, the striking face 3, the toe 4, the rear portion 5, the heel 6, and the sole portion 7. It is also provided with the shank or neck portion 8. Cast integrally with the portions named is the abutment 9 and the rear counterbalance or weight 10. The hollow metallic shaft or handle 11 of the club is secured in the metallic golf club head by being extended through the neck portion 8, the heel 6, and the sole portion 7. The shaft is further secured to the club head by being wound with the usual cord 12, which is fastened and finished in any suitable manner. The hollow metallic shaft 11 is also provided with a plug 13, which is secured in the lower end of the shaft, and with the lower end of the shaft is suitably secured in the bottom or the sole portion of the club. The end of the shaft 11 and the plug 13 are finished and buffed in such a manner that they are flush with the face of the sole portion 7, and present, with the sole portion, a smooth and even surface. The assembly of the me-

tallic head and handle will thus be seen to insure practical indestructibility throughout the entire club. The metallic club head and the metallic shaft may be finished and polished in a suitable manner and will present a desirable appearance.

The abutment 9, which is cast or molded integrally with the metallic hollow golf club head or shell generally designated 1, is of a flat triangular form, having a large base portion 14 which diminishes to the apex portion 15 substantially to the line of juncture of the striking face 3 and the top portion 2 of the metallic golf club head.

It has been found that when driving the golf ball from a close or "cuppy" lie the greatest force of impact is imparted to the lower or sole portion 7 of the club head, and in making the shot the player must take into consideration the matter of hitting some turf, or the ground, in the immediate vicinity of the ball. The impact of the ball, plus the extra strain on the bottom or sole portion 7 of the club head hitting the turf, or ground, offers great resisting force, and the golf club head of the invention is constructed with the abutment 9 angularly disposed, and enlarging gradually, or increasing in force resistance toward the bottom or sole portion 7 of the head, and providing the necessary strength and specially provided placement to offset and take up this sudden momentary shock. The upward outward slope of the abutment from the relatively heavy base portion 14 to the relatively light apex portion 15 tends to minimize the shock of impact by gradually and evenly spreading the impact shock towards and out through the upper or top portion of the striking face 3 of the club. This even distribution of shock absorption tends to add greater resilient force in dispatching the ball. The particular form of the abutment tends to elevate the ball after impact, thereby adding greater distance to the flight of the ball, as it is well known that distance can be accomplished and secured only through the forces controlling its extended elevation in flight.

Having thus described the invention what I desire to secure and claim by Letters Patent is:

1. In a metallic golf club head, the combination of a shell, a striking face portion, and an abutment arranged transversely of said striking face portion, said abutment being triangular in form with its base extending from the bottom of the striking face portion along the sole portion, and ending in its apex at the juncture with the top of the striking face portion and the top portion of said shell.

2. In a metallic golf club head, the combination of a shell, a striking face portion, a sole portion, and an abutment arranged

transversely of said sole portion, said abutment being triangular in form with its base extending from the sole portion along the striking face portion, and ending in its apex at the juncture with the top of the striking face portion and the top portion of said shell.

10 3. In a metallic golf club head, the combination of a shell, a striking face portion, a sole portion, and an abutment arranged transversely of said sole portion, said abutment being triangular in form with its base extending from the sole portion along the striking face portion, and ending in its apex with the top part of the striking face portion.

15 4. A golf club head formed in a unit of aluminum provided with a striking face portion, and having a reinforcement within the shell back of said striking face portion in the form of a triangular abutment, the base of which is integral with the sole portion, and the apex of which joins the top of said shell.

20 5. A golf club head formed in a unit of aluminum provided with a striking face portion, and having a reinforcement within the shell back of said striking face portion in the form of a triangular abutment, the base of the abutment being integral with the sole portion, and the apex of the abutment joining the top of said shell at the juncture of the striking face portion with said top portion.

25 6. A golf club head formed in a unit of aluminum provided with a striking face portion, and having a reinforcement within the shell back of said striking face portion in the form of a flat triangular abutment, the base of the abutment being integral with the sole portion, and the apex of the abutment joining the top of said shell at the juncture of the striking face portion with said top portion.

30 7. In a metallic golf club head comprised of a single unit of material, the combination of a striking face portion with a rib arranged transversely of said striking face portion, the base portion of said rib being of greater mass than the top portion thereof, whereby said greater mass may be utilized in lifting and driving a golf ball.

35 8. In a metallic golf club head comprised of a single unit of material, the combination of a striking face portion with a rib extending transversely of said striking face portion, the bottom portion of said transverse abutment extending partway along the sole portion of said club head, and the apex of said transverse abutment extending to the juncture of said striking face portion, and the top of said head.

40 9. In a golf club head formed in a single unit of aluminum, or other metal, the combination of a shell embodying a striking

face portion and reinforcing abutment, a counterbalancing and governing weighted portion which is an integral part of the shell situated in the rear of the shell directly opposite said striking face portion and reinforcing abutment, said abutment being transversely arranged between said striking face and weighted portions, the abutment being integral with the central portion of the striking face portion and having greater mass at its bottom than at its top and also having its smaller end at the juncture with the top of the striking face and the top portion of the shell, and its larger end integral with the striking face portion and the central portion of the sole portion but extending only partway on said sole portion to preserve the balancing of the club head.

45 10. In a golf club head formed in a single unit of aluminum, or other metal, the combination of a shell embodying a striking face portion and reinforcing abutment, a counterbalancing and governing weighted portion which is an integral part of the shell situated in the rear of the shell directly opposite said striking face portion and reinforcing abutment, said abutment being flat, triangular and transversely arranged between said striking face and weighted portions, the abutment being integral with the central portion of the striking face portion, having its apex at the juncture with the top of the striking face portion and the top portion of the shell, and its base integral with the striking face portion and the central portion of the sole portion but extending only partway on said sole portion to preserve the balancing of the club head.

50 11. In combination, a hollow metallic golf club head having a striking face portion with a transversely arranged triangular abutment extending inwardly from said striking face portion, and a metallic shaft or handle for said golf club head extending through the neck and sole portions of said golf club head, and secured in place therein, said shaft or handle having a plug, the bottom of said sole portion, shaft and plug being finished flush with one another, the base portion of said abutment being of greater mass than the top portion thereof, whereby said greater mass may be utilized in lifting and driving a golf ball.

55 12. In combination, a hollow metallic golf club head having a striking face portion with a transversely arranged triangular abutment extending in substantially the vertical central line of the striking face portion, and a metallic shaft or handle for said golf club head extending through the neck and sole portions of said golf club head, and secured in place therein, said shaft or handle having a plug, the bottom of said sole portion, shaft and plug being finished flush with one another, the base portion of said abut-

ment being of greater mass than the top portion thereof, whereby said greater mass may be utilized in lifting and driving a golf ball.

13. In a metallic golf club head, a shell having a striking face portion with an abutment within said shell back of said striking face portion, said abutment being integral

with said striking face portion, and also with the sole portion of said club head, and diminishing from the sole portion to the upper portion of the striking face portion. 10

In witness whereof, I hereunto subscribe my name this 14th day of July A. D., 1925.

ALBERT C. LINK.