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(54) **GOLF CLUB**

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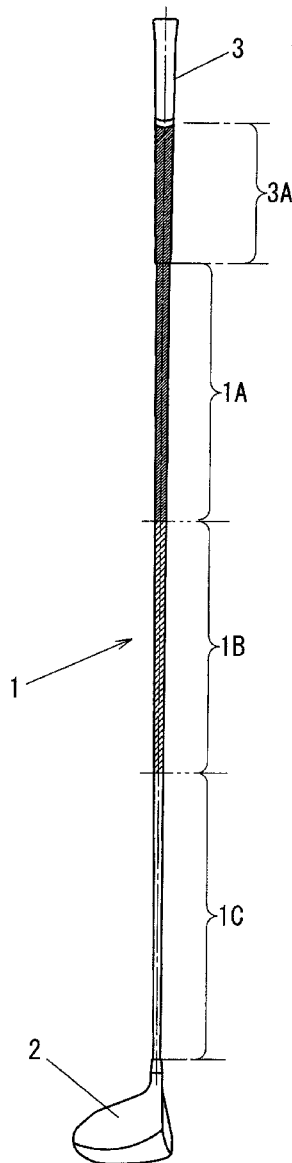
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(57) **ABSTRACT**

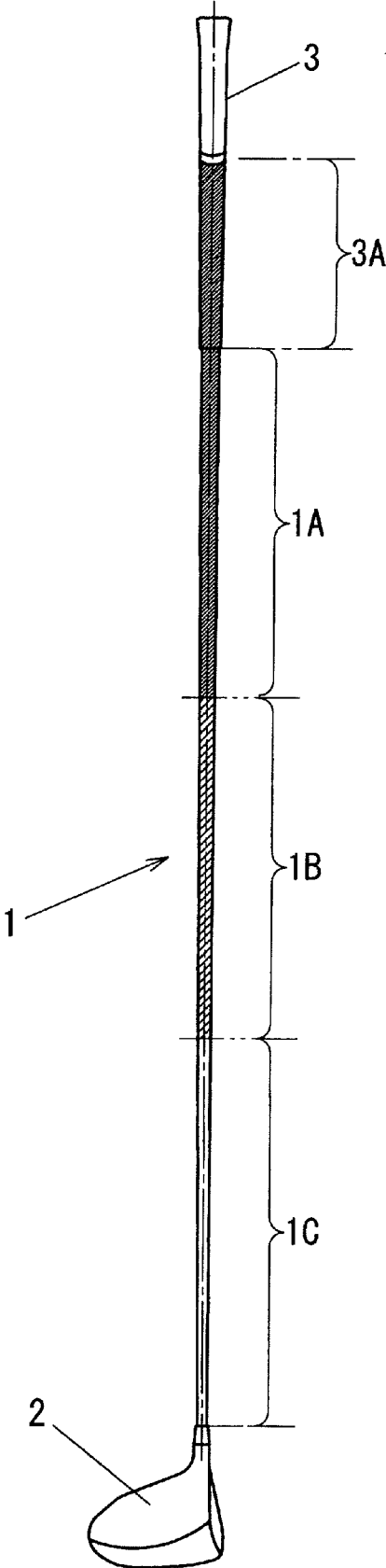
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A golf club includes a shaft in which a brightness of a color of the shaft from a grip side toward a head side is changed from darkness to brightness in a plurality of stages.

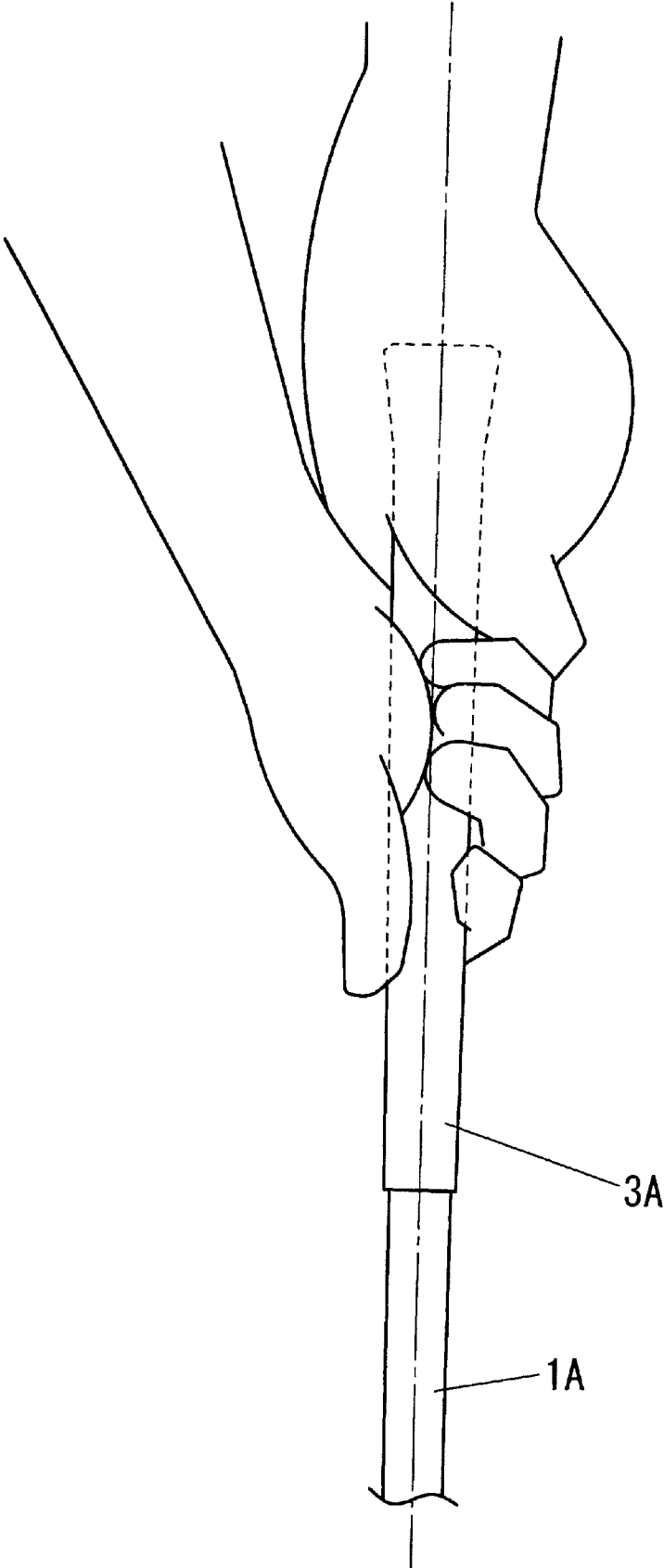
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**FIG. 1**



**FIG. 2**



**FIG. 3**

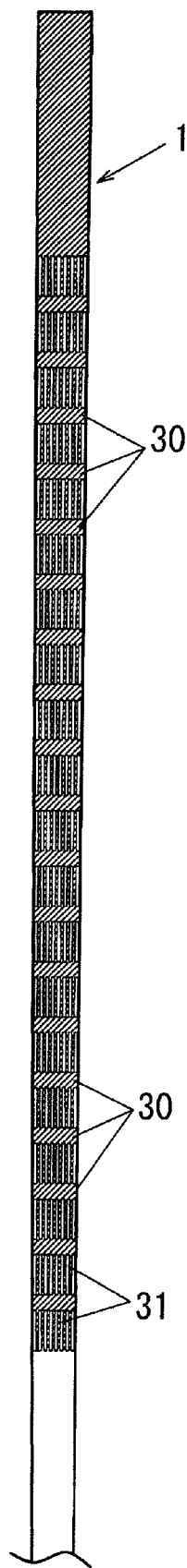
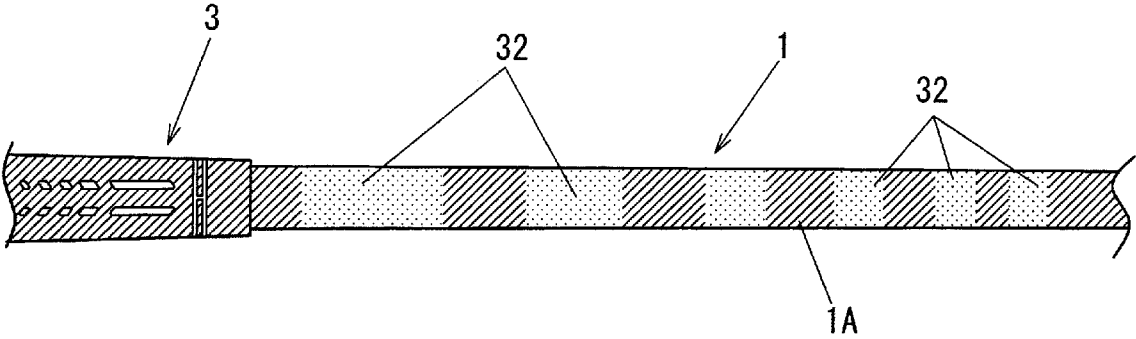


FIG. 4



**GOLF CLUB**

**BACKGROUND**

**[0001]** 1. Field of the Invention

**[0002]** The present invention relates to a golf club with a specially revised shaft, particularly, a golf club applied for mounting a long shaft.

**[0003]** 2. Description of the Related Art

**[0004]** As an invention relating to surface painting of a shaft of a golf club of the related art, that described in JP-A-2007-111176 is known. Regarding carbon shafts (CFRP), from the viewpoint of design properties or golfer psychology etc., there is that which is subjected to gradation painting, and in JP-A-2007-111176, a paint of a first color is sprayed to a first area in a longitudinal direction of a shaft, a paint of a second color is sprayed to a second area in a second area in the longitudinal direction of the shaft, and a gradation portion, which gradually changes from the first color to the second color, is provided on an overlap of the first area and the second area. In addition, the related art includes the steps of using a first spray gun and a second spray gun in which a position and a movement speed in the longitudinal direction of the shaft are controlled independently of each other, so that the first spray gun sprays the paint of the first color, the second spray gun sprays the paint of the second color, and the paint of the first color and the paint of the second color are painted in overlapping manner with a wet-on-wet technique by the control of the first spray gun and the second spray gun, whereby the gradation portion is formed.

**[0005]** JP-A-2007-111176 is limited to mainly disclosing a painting technology, and does not disclose how a color or gradation portion affects the psychology of the golfer.

**SUMMARY**

**[0006]** The present invention has studied a method of coloring to improve confidence regarding the core when seen briefly for golfer psychology during address, even for a long shaft such as a driver or a fairway wood, for example, a driver having a shaft of 45 inches or more.

**[0007]** According to an aspect of the invention, there is provided a golf club including a shaft in which a brightness of a color of the shaft from a grip side toward a head side is changed from darkness to brightness in a plurality of stages.

**[0008]** According to the present invention, by changing the brightness of the color of the shaft from a grip side to a head side, from darkness to brightness in a plurality of steps, when a dark color side is gripped and the head side of the brightest color is seen, it appears shorter than the actual club. As a result, a probability of a golfer hitting the ball with the core is high.

**BRIEF DESCRIPTION OF THE DRAWINGS**

**[0009]** The present invention will become more fully understood from the detailed description given hereinbelow and the accompanying drawing which is given by way of illustration only, and thus is not limitative of the present invention and wherein:

**[0010]** FIG. 1 is an overall diagram of a golf club according to one aspect of the invention;

**[0011]** FIG. 2 is a front view when a grip of the golf club is gripped;

**[0012]** FIG. 3 is a detailed view of a grip side of a shaft of the golf club; and

**[0013]** FIG. 4 is a front view showing another aspect of the invention.

**DETAILED DESCRIPTION OF THE INVENTION**

**[0014]** Hereinafter, a preferred embodiment of the present invention will be described.

**[0015]** As shown in FIG. 1, a golf club of the present invention is configured so that a head is installed on a front end of a shaft 1 and a grip 3 is installed on a proximal end thereof. In the shown embodiment, a driver is shown, the length of the shaft is 45 to 46 inches, and the head volume is 450 cc to 460 cc. The shaft 1 was divided into a plurality of color portions in the longitudinal direction except for a portion where the grip 3 was mounted. The shaft was divided into three portions in the shown example (it need not necessarily be divided into equal parts). The grip 3 side was a first painting portion 1A of darkest color (a navy blue in this example), the middle portion was a second painting portion 1B colored with a dark gray, and the head 2 was a third painting portion 1C colored with a bright silver. Furthermore, a front end side was also a dark color portion 3A of the same color of the first painting portion 1A.

**[0016]** When the above-mentioned golf club was gripped by a golfer (see FIG. 2), the dark color portion 3A of the grip 3 and the overall coloring of the shaft 1 is visible to the golfer, and during address, compared to a case where the overall shaft 1 is colored with a single color of the same brightness, for example, navy blue, the length of the grip is psychologically felt to be shorter. Since the front end side of the shaft 1 is bright silver, the brighter of the color, the closer it appears due to the color expansion effect, and, as a result, the shaft 1 feels short.

**[0017]** In an embodiment shown in FIG. 3, the first painting portion (the navy blue) was 1A, the second painting portion (the dark gray) was 1B, and the third painting portion (the bright silver) was 1C, and after the painting of the navy blue and the gray was carried out, a ring-shaped pattern 30 was applied using the navy blue color at intervals of a predetermined length, and a striped pattern 31 arranged on the circumference along the axial direction is applied between the ring-shaped patterns 30. Ground colors of the first and second painting portions 1A and 1B are seen between the striped patterns 31.

**[0018]** Various researches have been made regarding how the color acts on the psychology of a person. Here, there are seven colors of light: a red, an orange, a yellow, a green, a blue, a dark blue, and a violet. As to the color approaches the violet from the red, "a mind relaxation" and "relax" is provided. On the contrary, as the color approaches to the red, "the mind is energized" and "fighting spirit is encouraged." In the present embodiment, by making the grip side navy blue, the mind of the golfer is not disturbed and relaxes, and an effect of improving the probability of good shot can be expected. Furthermore, regarding the psychology of feeling the weight, the weight is approximately the same as the actual weight with the white color, and, with respect to an actual weight of 100, with the dark gray, the weight is felt to be 155, with red, 176, and with black, 187. Thus, in the case in which the front end side of the shaft is colored with bright silver which is close to white, the shaft is felt to be light, and an image of easily swinging the club is encouraged.

**[0019]** A case in which a plurality of ring-shaped patterns 30 as shown in FIG. 3 are formed at regular distances also has an action of making the length of the shaft feel short.

**[0020]** The first and second painting portions 1A and 1B, which are seen from the gap of the striped pattern formed between the ring-shaped patterns 30, also makes the length of the shaft feel shorter than it actually is.

**[0021]** FIG. 4 shows another embodiment, and unlike FIG. 3, a stain portion 32 of a white water color is formed on the

shaft in the shape of a circumference on the first painting portion 1A of the navy blue at a predetermined distance, and as it goes to the shaft front end side, the area of the stain portion 32 is reduced. The stain portion 32 may be formed on a surface (a front surface) of the shaft 1 which is seen at least at the time of address of the golfer. In addition, the stain portion 32 is subjected to gradation painting. Even in the embodiment, the second painting portion 1B was colored with the dark gray, and the third painting portion 1C was colored with the bright silver.

[0022] In the golf club 24 equipped with the shaft of the embodiment shown in FIG. 3, the shaft was felt to be shorter than it actually was by 62% of golfers among 24 golfers. In the embodiment shown in FIG. 4, the shaft was felt to be shorter by 54% of golfers among 41 golfers.

[0023] A test result of the embodiment shown in FIG. 3 and the club having the shaft painted with only the navy blue is shown hereinafter. The shaft lengths of both clubs are identical to each other.

TABLE 1

club	HS	initial speed	meet ratio	upper striking angle	right striking angle	B spin	S spin	carry	bre	total
embodiment	44.1	59.9	1.359	18.2	-0.1	2807	21	214.1	-1.5	225.1
comparison example	44.1	59.7	1.354	18.5	0.5	3108	99	214.8	4.4	223.7

[0024] The “HS” in table 1 shows a head speed in units of m/s. The “initial speed” is a speed immediately after the impact of a ball (m/s). The meet ratio is a value of the ball initial speed divided by the head speed. The “upper striking angle” is the up and down striking angle (degrees) of the ball. The right striking angle is the striking angle of the ball in a right direction (degrees). The “-” denotes the striking angle (hook) to the left in the case of a right-handed golfer. The “+” denotes a striking angle (slice) to the right. The “B spin” denotes a back spin (rpm). The “S spin” denotes a side spin (rpm). The “carry” is the flight distance which is the distance until the ball lands on the ground. The “bre” denotes left and right falling positions. “-1.5” is in units of “degrees”, and indicates striking to the left by 1.5° further than a straight line of flight. The “total” denotes the sum flight distance of the carry and the run (displayed in yards).

[0025] In the present invention, the shaft is felt to be shorter, so that the meet ration is also improved, the grasp of the ball is also satisfactory, and the flight distance is also extended.

What is claimed is:

1. A golf club comprising a shaft in which a brightness of a color of the shaft from a grip side toward a head side is changed from darkness to brightness in a plurality of stages.
2. The golf club according to claim 1, wherein the grip side is colored with a navy blue and the shaft is colored with a dark gray to a bright gray toward a front end side.
3. The golf club according to claim 1, wherein the front end side of the grip, which is installed in the shaft, has the same color as a color of the grip side of the shaft.
4. A golf club comprising: a shaft, having a first end portion and a second end portion; a grip, disposed at the first end portion; and a head, disposed at the second end portion, wherein the shaft is colored so that a brightness of a color from the first end portion toward the second end portion is changed from darkness to brightness in a plurality of stages.

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