

June 30, 1936.

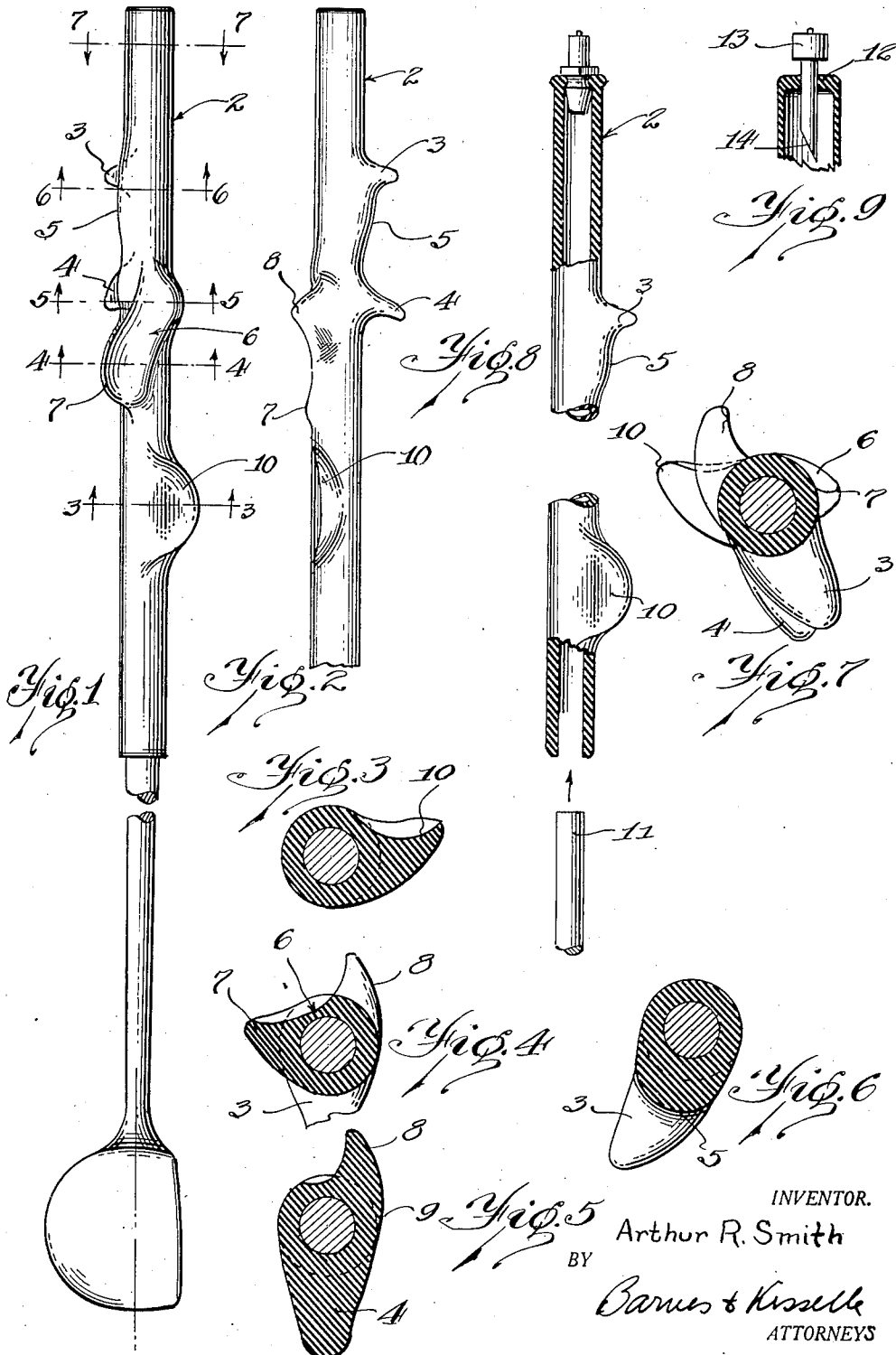
A. R. SMITH

2,046,191

GRIP FOR GOLF CLUBS AND METHOD OF APPLYING THE SAME

Filed Jan. 8, 1932

2 Sheets-Sheet 1



June 30, 1936.

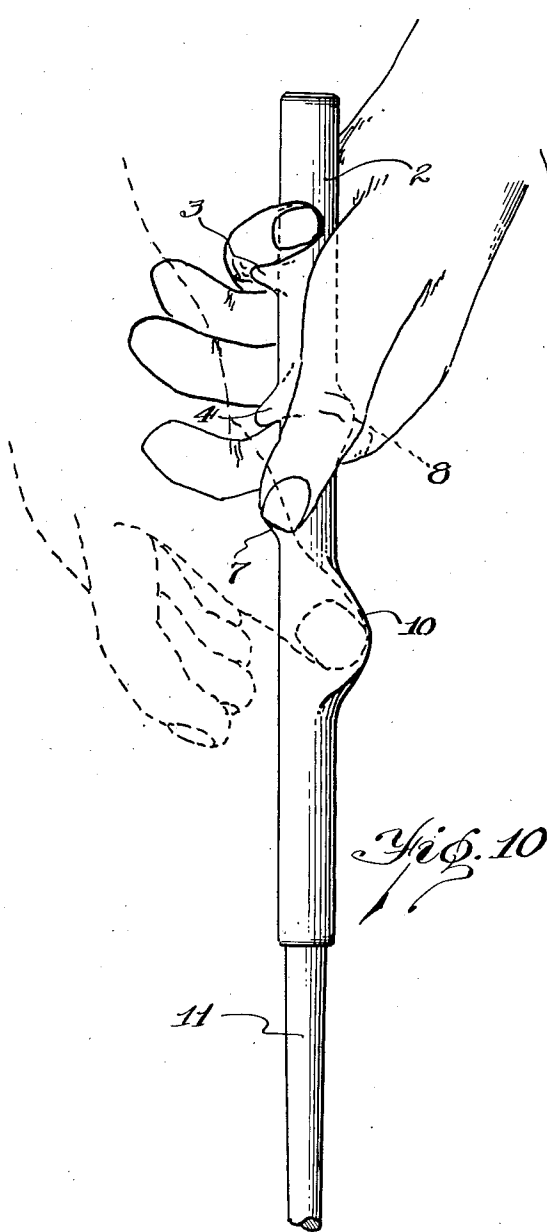
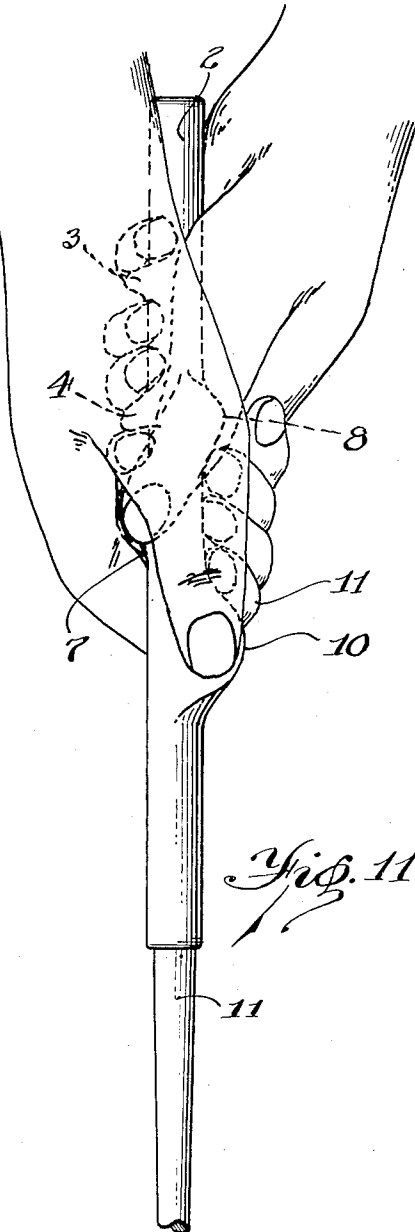
A. R. SMITH

2,046,191

GRIP FOR GOLF CLUBS AND METHOD OF APPLYING THE SAME

Filed Jan. 8, 1932

2 Sheets-Sheet 2



INVENTOR.

Arthur R. Smith

BY

Barnes & Kissel
ATTORNEYS

ATTORNEYS

UNITED STATES PATENT OFFICE

2,046,191

GRIP FOR GOLF CLUBS AND METHOD OF
APPLYING THE SAME

Arthur E. Smith, Detroit, Mich., assignor of one-third to A. Gordon Armstrong and one-third to Malcolm D. MacQueen, both of Detroit, Mich.

Application January 8, 1932, Serial No. 585,425

8 Claims. (Cl. 29—88.2)

This invention relates to a grip for golf clubs and method of applying the same, and has to do particularly with a grip designed to positively position the hands relative to each other and to the club grip so as to bring about a correct team play between the hands, wrists and arms, relative to each other and to the body.

Many attempts have heretofore been made to design golf club grips with the general idea in mind of insuring positive correct position of some portions of the hands or fingers relative to the golf club. One type of golf club grip has embodied the idea of forming depressions for the fingers and thumbs in the wall of the grip, such as shown in the patents to McCullough No. 1,664,257 and Ballou No. 1,556,473, and other attempts have embodied the idea of adding one or more extensions to the grip to form locating members for parts of the hand or hands such as shown by the patents to Morley No. 1,075,054 and Stoeffler No. 1,694,992.

It is my belief that these prior art attempts are based on the wrong theory, the theory of the first general type being wrong because the finger depressions would make for a tendency to grip the shaft at the ends of the fingers instead of the entire hand, and the other general theory being wrong because of a decided awkwardness of the extension members, the difficulty of attachment, and the lack of balance between the hands.

It is an object of the present invention to provide a molded grip for insuring a positive but natural position of the hands upon the club, said molded grip being so fabricated as to permit its quick and easy assembly on the end of the club hands by a novel method. More specifically, the present invention embodies a golf club grip, the actual gripping surfaces of which are approximately the same as would be encountered in a standard grip but provided with molded extensions, all of which cooperate to naturally insure the positioning of each hand relative to the grip and relative to each other. Still more specifically, means is provided for separating the second and third fingers of the left hand from the forefinger and little finger in such a manner that the mind is completely freed from any sensing of the nerves in the fingers of the left hand, with the direct result that the tension is relieved and a much better grip is obtained with the left hand. Means is also provided for obtaining an even balancing of the thumbs of each hand, one thumb being balanced against the other to obtain correct control of the club, the form of such balancing means being such that additional material leverage is obtained, particularly for the left hand and left thumb. Other means in the combination are provided for positively locating the two index fingers without the necessity of any depressions

and also at the same time positively locating the second and third fingers of the right hand.

While preferably molded in one piece, my novel handle may be adjusted or distorted as to certain parts thereof to accommodate different type of grips and in assembling the complete grip, which is preferably by means of compressed air, the desired adjustment or distortion may be obtained before final setting. Other features of the grip and the method of applying, will be more clearly brought out in the specification and claims.

In the drawings:

Fig. 1 is an elevation showing my molded grip secured to the shaft of a club.

Fig. 2 is a side view of the grip shown in Fig. 1.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1 and illustrating in detail a projection for receiving the phalange of the right thumb and for positioning the right forefinger.

Fig. 4 is a sectional view taken on line 4—4 of Fig. 1, illustrating the portion for receiving the entire left thumb and also illustrating this position relative to the thumb member shown in Fig. 3.

Fig. 5 is a sectional view taken on line 5—5 of Fig. 1 and illustrating the front trigger member for receiving the left forefinger and for separating the same from the second finger, and also illustrating the projection for fitting in between the thumb and forefinger of the left hand.

Fig. 6 is a sectional view taken on line 6—6 of Fig. 1 and illustrating the preferred positioning of the rear trigger member.

Fig. 7 is a sectional view taken on line 7—7 of Fig. 1 and showing the relative positions of the various projecting members of the molded grip.

Fig. 8 is a view partially in section of a step in the method preparatory to assembling the grip on the shaft.

Fig. 9 is a fragmentary detail view of a modified manner of connecting the grip with a source of compressed air.

Fig. 10 is a view of the grip attached to the shaft of a club and illustrating the hands in more or less open position before finally closing in around the grip.

Fig. 11 is a view similar to Fig. 10 but showing the correct relative position of the hands and the manner of holding the left thumb flat against the grip with the right thumb.

While the illustrated embodiment of the present invention is in the form of a hollow molded rubber grip adapted to be applied to the shaft of the club, it will be understood that the present invention is not limited in scope to such hollow rubber grip but is designed to cover any type of grip and of any material which in general simulates the surface dimensions and arrangement of the grip shown in the drawings.

The hollow grip, as illustrated in Figs. 1 and 2 may be generally designated 2 and starting at the upper end of this grip it is provided with an extension 3 which I preferably call the rear pressure trigger because it is designed to receive pressure from the inner surface of the little finger, as is best illustrated in Figs. 10 and 11. Looking from the front end of this grip 2, and as best shown in Fig. 6, the rear pressure trigger is preferably curved to the left of a vertical central plane through the grip and the shaft.

A front trigger member 4 is spaced far enough from the rear trigger member 3 as to nicely receive the two middle fingers and also to serve as a pressure trigger for the inside surface of the forefinger of the left hand, as illustrated in Fig. 10. Inasmuch as the first and second fingers of the hand are controlled by one nerve and the third and fourth fingers controlled by another nerve, it will be seen that by separating the two middle fingers from the two end fingers that the mind of the player is completely taken off the nerves of the fingers of the left hand. The direct result of this is a relief of all tension or tightness providing a much better grip and also leaving the fingers free to firmly grip a substantially cylindrical surface much the same as a standard golf club grip.

A raised portion 5 is preferably provided adjacent the rear pressure trigger resulting in a positive lowering of the shaft of the club so that the player does not have to constantly keep in mind the lowering of the end of the shaft.

The positioning member 6 for the left thumb has a portion thereof which is preferably depressed below the normal circumference of the club. This left thumb positioning member or depression is of such length and is so depressed as to receive the entire left thumb, one edge of this portion 6 being shaped as at 7 to receive and balance the left thumb against the right thumb as will be hereinafter described. The other end of this depression 6 is provided with a horn 8 which forms a positive seat for receiving the V between the left thumb and forefinger. It will be obvious that this horn and the depression for fitting against the entire length of the left thumb provide a maximum amount of pressure for the left thumb and incidentally the left hand. A flat surface 9 extending between the triggers 3 and 4 and the horn 8 on the left side of the grip, as best shown in Figs. 2 and 5, fits nicely against the palm of the left hand, to give a tight grip without exercise of undue pressure by the muscles of the left hand.

The combination of the two pressure triggers, the long depression 6 for the left thumb, the horn 8 and the flat surface 9 all cooperate and tend to give the player a positive natural grip with the left hand and positively eliminates any play or twisting of the club during the stroke. The grip is loose in one sense of the word, in that the muscles of the hand are in no way tensioned, but it is at the same time naturally and automatically firm so as to maintain complete control of the club. A slightly depressed extension member 10 is so formed and positioned relative to the positioning member or portion 6 as to receive the phalange of the right thumb, as best shown in Fig. 11; the extension 10 receives only the phalange of the right thumb so that the extension 10 acts as a leverage for the right thumb to press against and keep the entire left thumb flat in its depression 6, the left thumb in

the meantime, of course, fitting in the palm of the right hand.

The forefinger 11 of the right hand surrounds the back portion of this extension 10, as best shown in Fig. 11 and inasmuch as the forefinger of the left hand is positively positioned by the trigger member 4, it will be seen that the relative longitudinal positions of the trigger member 4 and the extension 10 are such that there is only room for two fingers between the positively positioned forefingers, as best shown in Fig. 11. This gives the correct position of the hands, with the little finger of the right hand overlapping the forefinger of the left hand.

The opposed thumb members 6 and 10 preferably have a median angle of about 30° from the horizontal when the club handle is in correct position. This positions the right and left hand thumbs so that the opposed pressure of the thumbs is substantially balanced.

While it will be obvious that the grip unit may be severed in one or more places in applying the same to the shaft, I preferably retain the hollow molded grip member as a single unit in applying the same to the shaft. In the preferred manner of assembly, an air valve is formed or inserted in one end of the hollow grip and the other end of the grip placed over the end 11 of the shaft, as best shown in Fig. 8. Introduction of air through the valve will so expand the grip that it may be easily slipped over the end of the shaft and positioned correctly and circumferentially with regards to the club head. The desired amount of rubber cement may be inserted in one end of the grip prior to assembly. After the grip has been telescoped over the end of the shaft to the desired position, and while the cement is still plastic, the grip may be so adjusted as to correctly position the positioning means 3, 4 and 6 for the left hand; this accomplished, the operator may then circumferentially twist or distort the portion of the grip below the member 6 so that the thumb locating member 10 can be adjusted circumferentially to suit the particular grip of the individual.

After assembly of the grip over the end of the shaft, the end of the grip may be cut off at the point indicated by the dotted lines in Fig. 8 or, if desired, the end of the hollow grip may be closed in as at 12, see Fig. 9, and a valve unit 13 used having a tapered end portion 14. Such tapered end portion may be easily pushed through the end 12 of the rubber grip and when compressed air is admitted through the valve, the tapered portion 14 will prevent the valve from being blown out during assembly of the grip on the shaft. It will be obvious that the valve 13 may be readily removed leaving a very small, if any, opening at the end of the grip. The assembly of plain rubber grips has heretofore been quite a problem in the industry, but by merely inserting valve means at one end of the hollow grip the grip may be easily and quickly moved into position.

The thickness of the rubber sleeve or grip and the positioning of the various extensions thereon may vary considerably according to the type and size of hand of the player, but it will be seen that every extended or distorted portion of the grip beyond the true cylindrical surface of the grip has a definite cooperative function with every other extension or distorted part. The front surface of the front trigger 4 positions and serves as a pressure surface for the forefinger of the left 75

hand and combined with the thumb projection 10 definitely positions the first three fingers of the right hand. The rear surface of the trigger 3 serves as a pressure surface for the little finger; the raised portion 5 cooperates with the pressure triggers and with the left thumb member 6 to positively lower the shaft in the address position. The horn 8, in combination with the trigger finger 4, assists in locating the forefinger of the left hand; the left thumb depression member 6, in combination with the horn, the flat portion 9, and the trigger fingers, all cooperate in positively locating the left hand, and the thumb locating and receiving members 6 and 10 balance the applied pressure, greatly increase the pressure of the left hand and prevent twisting of the club. Furthermore, the combined extensions and distortions make for a natural lock grip which arrangement makes possible only a very small amount of pressure by the right hand until at the position of impact.

My grip may be molded in various kinds and types of materials, such as rubber in its various grades, bakelite, and many other moldable materials, but such material is preferably resilient and slightly elastic to make the lower end of the grip circumferentially adjustable relative to the remainder of the grip and to permit of easy assembly by air pressure. The bore of my hollow grip is such as to provide a snug fit around the shaft, regardless of whether said shaft is straight or tapered and by using my method of assembly under fluid pressure, it is possible to fabricate grips having a bore of less diameter than the corresponding diameter of the shaft.

What I claim is:

1. The steps in the method of assembling grips made of expansible material on to the ends of playing club shafts which consist in forming a grip with a substantially closed end and an open end, fitting the open end around the end of the shaft, inserting a valve stem into said closed end, gradually expanding the internal walls of the grip immediately ahead of and by means other than the shaft and introduced through the valve to permit relative movement between the grip and the shaft, removing said stem and allowing said closed end to contract and substantially conceal the end of the shaft.

2. The steps in the method of assembling grips made of expansible material on to the ends of playing club shafts which consist in forming a grip with a substantially closed end and an open end, fitting the open end around the end of the shaft, inserting a valve stem into said closed end, gradually expanding the internal walls of the grip immediately ahead of and by means other than the shaft and introduced through the valve to permit relative movement between the grip and the shaft, maintaining a snug fit between the open end of the grip and the shaft during the complete assembly, removing said stem and allowing said closed end to contract and substantially conceal the end of the shaft.

3. The method of assembling hollow grips to the shafts of playing clubs, which comprises forming a flexible distendable grip with an open end and a partially closed end, fitting the open end around the end of the shaft, radially distorting a portion of the grip beyond the shaft while maintaining a tight fit around the shaft whereby to permit easy relative movement between the

shaft and the grip until said shaft strikes the partially closed end of the grip.

4. The method of assembling hollow flexible grips to the shafts of playing clubs, which comprises forming the grip with an open end and a closed end except for a relatively small opening, forcing one end of the grip over the end of the shaft, inserting a small valve stem through said opening, filling the remaining portion of the hollow grip with a fluid under pressure and sliding the grip over the shaft while maintaining said fluid within the grip under pressure.

5. The method of assembling hollow flexible grips to the shafts of playing clubs, which comprises forming the grip with an open end and a closed end except for a relatively small opening, forcing one end of the grip over the end of the shaft, inserting a small valve stem through said opening, filling the remaining portion of the hollow grip with a fluid under pressure and sliding the grip over the shaft while maintaining said fluid within the grip under pressure, and removing the valve stem as the shaft reaches said closed end.

6. The method of assembling a hollow grip of resilient material over a playing club shaft wherein the bore of the grip is not greater than the diameter of the shaft, which comprises forming the grip with an open end and a closed end except for a relatively small opening, forcing one end of the grip over the end of the shaft, inserting a small valve stem through said opening, accumulating fluid under pressure in the hollow portion of the grip, sliding the grip down over the shaft while maintaining said accumulated fluid under pressure, and so placing cement within said grip that it will be spread between the shaft and the grip during said assembly under pressure.

7. A grip for golf club shafts and the like comprising a hollow, circumferentially distensible sleeve of resilient material, of appreciably greater length than diameter, one end of said sleeve being open and of such predetermined diameter relative to the shaft that it may be forced on to one end of the shaft and maintain a relatively tight fit as it is moved along the shaft, the other end of said sleeve being substantially closed except for an opening adapted to receive a valve stem, the introduction of fluid under pressure through the valve stem in combination with said relatively tight fit between the open end of the sleeve and the shaft causing the walls of the sleeve to be distended and permit the sleeve to be easily slipped down over the shaft.

8. A grip for golf club shafts and the like comprising a hollow, circumferentially distensible sleeve of rubber material, of appreciably greater length than diameter, one end of said sleeve being open and of such predetermined diameter relative to the shaft that it may be forced on to one end of the shaft and maintain a relatively tight fit as it is moved along the shaft, the other end of the sleeve converging inwardly to form an abutment for the end of the shaft and adapted to receive the end of a valve stem, the introduction of fluid under pressure through the valve stem in combination with said relatively tight fit between the open end of the sleeve and the shaft causing the walls of the sleeve to be distended and permit the sleeve to be easily slipped down over the shaft.

ARTHUR R. SMITH.