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GRIP ON HANDLES

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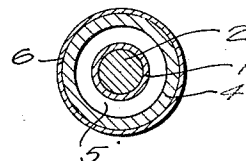
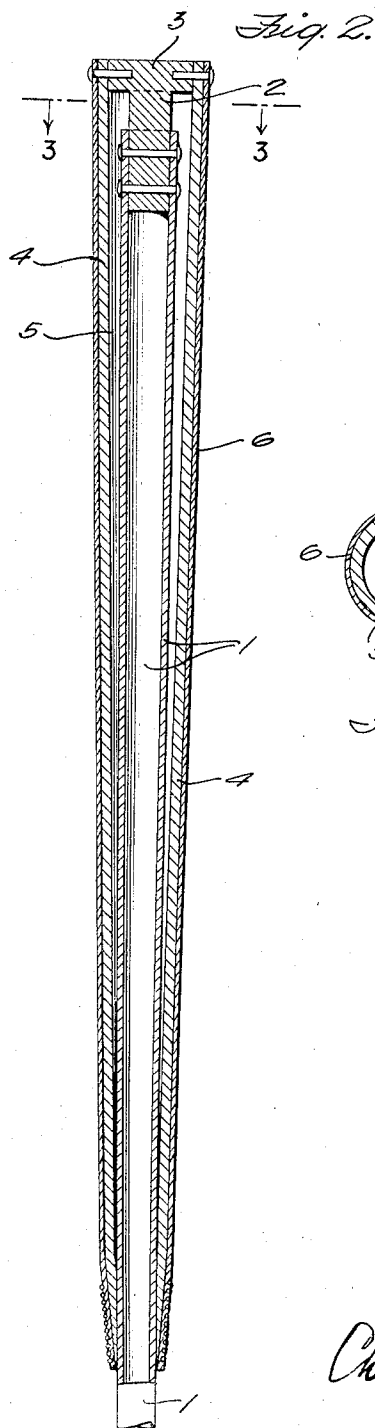
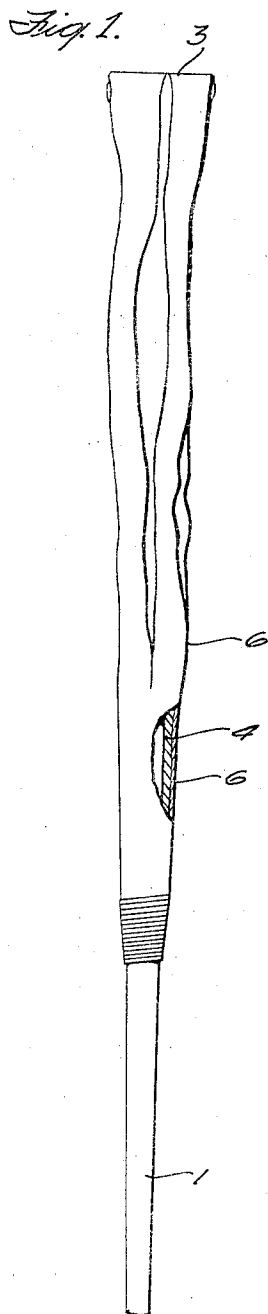


*Fig. 3.*

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## GRIP ON HANDLES

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3 Claims. (Cl. 273—81)

My invention relates to hand grips for golf clubs.

It is an object of this invention to provide a grip for a golf club which may readily be moulded to conform to the grip of the individual player without the use of expensive equipment and which may be manufactured economically and applied to existing golf club shafts without imparting excessive weight thereto. Other objects and advantages will appear hereinafter.

In accordance with the invention, I form plates of felt or other fibrous material impregnated with plastic material softenable by moderate heat, and roll them into tubes of a diameter somewhat greater than the diameter of the golf club shaft to which the grip is to be applied. Preferably the plates are of tapering width, for example they may taper from a width of from three to four inches at the top to two to two and one half inches at the bottom, so that the tubes are of tapering diameter. A tube is then placed around the upper end of a golf club shaft of usual construction having an enlarged upper portion and the upper end of the tube is fastened to the enlarged portion of the shaft and the lower end of the tube secured to an intermediate portion of the shaft in any suitable manner. It will be appreciated that the interior surface of the tube is spaced a substantial distance from the surface of the shaft leaving a hollow space between the shaft and tube. An outer surface covering of leather or other flexible material in the form of a sleeve or a strip of leather to be wrapped spirally may then be cemented or otherwise secured about the outer surface of the tube. The grip is then heated to a temperature which may be withstood by the human hand and which softens the tube, and the owner of the club grips the club in its proper position and presses the grip to depress portions of the tube into the space between the tube and shaft and mould the grip to conform to the shape of his hand. In lieu of tubes constituted of felt impregnated with plastic material, I may employ plastic tubes of other composition, for example, I may employ tubes of crude rubber and cork, tubes constituted of leather on sheet rubber having spread upon a side thereof a plastic composition constituted of cork and rubber or rosin, wax and asphalt, or I may use another material of a substance that can be rendered plastic and capable of being moulded by the pressure of the hands.

For a more thorough understanding of the invention, reference should be had to the accompanying drawing wherein,

Figure 1 is a side elevation of a golf club grip in accordance with this invention.

Figure 2 is a longitudinal sectional view through a golf club grip constructed in accordance with the invention but before moulding the grip to conform to the hands of the player.

Figure 3 is a cross sectional view through taken on line 3—3 of Figure 2.

Referring more particularly to Figures 1, 2 and 3 of the drawing, reference numeral 1 designates the upper portion of a golf club shaft and 2 is a wooden plug secured within the shaft and having an enlarged upper portion 3 of somewhat greater diameter than the shaft proper; numeral 4 is a plastic tube preferably split longitudinally along one side and tapering from the bottom to the top secured at its upper end by cementing or tacking to the enlarged portion of the wooden plug end at its lower portion to the shaft proper. It will be observed that the tube 4 is of larger diameter than the shaft so that the major portion of its inner surface is spaced from the surface of the shaft, leaving a space 5 between the tube and the shaft. Numeral 6 is the leather or other form of covering.

Preferably the tube is constituted of felt of a thickness between thirty and one hundred fifty one thousandths of an inch and impregnated with rosin wax and asphalt or similar plastics. Such material is relatively rigid at ordinary temperatures, but softens at temperatures which may be withstood by the human hand e. g. temperatures of 160 degrees F. or somewhat higher so that when so heated, it may readily be moulded by the pressure of the hand. Advantageously the impregnated felt may be formed into plates of from 12 to 14 inches in length and tapering in width from three to four inches at one end, and to two to two and one half inches at the other, the plates may be skived lengthwise down the sides and at the narrower end, heated and then rolled into tapered tubes longitudinally split along one side. The longitudinal split has the advantage that the tubes may readily be accommodated to golf club shafts of somewhat different sizes.

After the plastic tube and outer covering have been assembled about the grip portion of the golf club shaft as hereinabove described, the tube is softened by heating it by means of a heating device, or other suitable equipment to a temperature such that the tube becomes soft and pliable. The outer surface is then gripped by the player who is to use the club and pressed

to mould the tube to a shape conforming to the player's hands.

In the case of inexperienced players, this should be accomplished under the guidance of a professional golf instructor. Under the pressure exerted by the player's hands, the portions of the tube are depressed into the space 5 between the tube and shaft without objectionable extrusion of material between the player's fingers, thereby forming a grip conforming to the shape of the player's hands. The grip is then allowed to cool and thereby harden so that it retains its shape under conditions of service. In addition to facilitating a firmer grip of the club, preventing turning of the club in the player's hands, and the slipping of the fingers, my invention serves as a constant check or remainder, avoiding the tendency of golf players to gradually get away from the correct grip.

Furthermore, golf clubs may be made in accordance with the invention at the factory, and then heated or moulded after distribution to individual players, or the invention may be applied to existing golf clubs by removing the old grip and substituting therefor my improved grip.

It will be appreciated that plastic tubes of other composition than plastic impregnated felt may be employed in practicing the invention. For example, the tubes may be constituted of a layer of crude rubber and cork upon a fabric e. g. cotton backing. Such tubes will ordinarily be substantially thicker than the impregnated felt tubes hereinabove described. Furthermore, tubes constituted of a leather backing or sheet rubber backing and a layer of plastic material such as the rubber-cork mixture or the rosin-wax-asphalt mixture hereinabove described, may also be employed, and other forms of tubes may be employed that may be rendered mouldable and made to conform to the pressure of the hands.

The interior of the tubes may be covered with cement to cause them to adhere to the shaft at the points of contact therewith.

Thus it will be seen that in accordance with the invention I have provided a golf club grip which may be economically manufactured and moulded to conform to the shape of the individual player's hands. Furthermore, if for any reason the grip is not satisfactorily moulded, it may be reheated and remoulded.

My invention includes the many factors which must enter into the production of a practical and successful moulded grip; first, the net weight must not exceed the weight of the present grip thereby preserving the balance of the club; second, the diameter of the grip before moulding is greater than that of the usual golf club grip so that when the impressions are made, the net volume of the grip will not be too small and expansion will not occur in other parts where the pressure is not employed. Third, the material employed stands the heavy strain of the swing and impact, softens under moderate temperatures which will not burn the hands and at the same time resist the temperatures encountered while the club is in play.

A split construction of the grip lends itself to enlargement or reduction of the basic diameter of the grip so that the grip may readily be

accommodated to small or large hands in the following manner:

1. If, after making your mold, you feel that you have more volume than is comfortable, then heat it again, somewhat hotter, and press on your grip more firmly than before and squeeze down the volume to the quantity that feels the most comfortable to you.

2. If you have pressed too firmly, and the grip feels small, then reheat it, roll it, and otherwise even it up, and then reheat it again and make a new mould.

3. The volume can more definitely be controlled by the diameter of the plug at the top. If you wish large volume just have a large plug or rim and open your tube to the diameter desired. If you wish very small volume, just take a pair of scissors and cut a strip on either side down the opening of the plastic tube to the diameter desired, and you get a minimum sized grip.

I claim:

1. A golf club grip comprising a plug member for insertion in the end of a hollow shaft, said plug having an annular rib of a diameter greater than the exterior of the shaft diameter and a foundation member surrounding said shaft and having one end supported on the rib and the other end directly secured to said shaft, thus creating a space between the interior of the foundation member and the exterior of the shaft, said foundation member consisting of a split sleeve formed from a sheet of textile material impregnated with a thermoplastic substance which is rendered plastic by heat in excess of that created by the hands under playing conditions, said foundation member being covered with the conventional leather wrapping or similar material.

2. A golf club grip comprising a plug member for insertion in the end of a hollow shaft, said plug having an annular rib of a diameter greater than the exterior of the shaft diameter and a foundation member surrounding said shaft and having one end supported on the rib and the other end directly secured to said shaft, thus creating a space between the interior of the foundation member and the exterior of the shaft, said foundation member consisting of a sleeve formed from a thermoplastic substance which is rendered plastic by heat in excess of that created by the hands under playing conditions, said foundation member being covered by the conventional leather wrapping or similar material.

3. A golf club grip comprising a plug member for insertion in the end of a hollow shaft, said plug having an annular rib of a diameter greater than the exterior of the shaft diameter and a foundation member surrounding said shaft and having one end supported on the rib and the other end directly secured to said shaft, thus creating a space between the interior of the foundation member and the exterior of the shaft, said foundation member consisting of a sleeve formed from a substance which can be rendered plastic and capable of being mouldable by the pressure of the hands, said foundation member being covered with the conventional leather wrapping or similar material.

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