

April 29, 1969

J. K. GARRITY

3,441,276

GOLF CLUB GRIP

Filed Nov. 14, 1966

Sheet 1 of 2

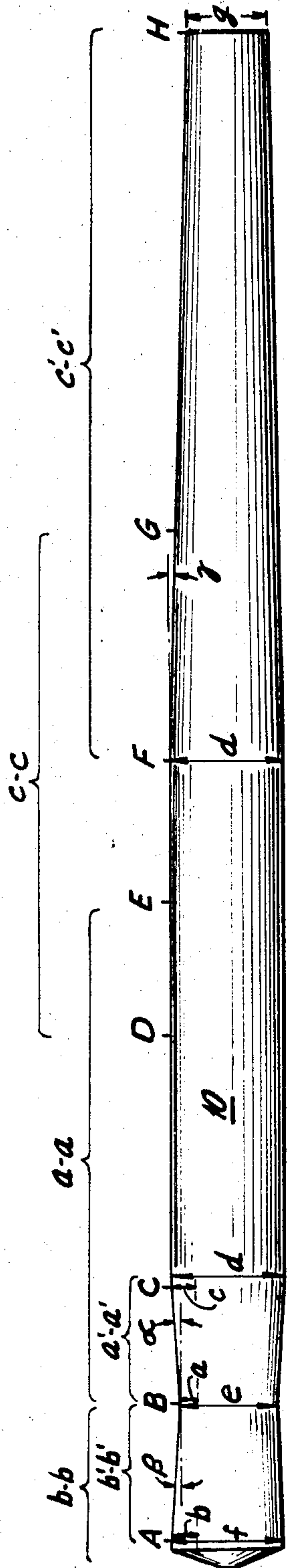


FIG. 1

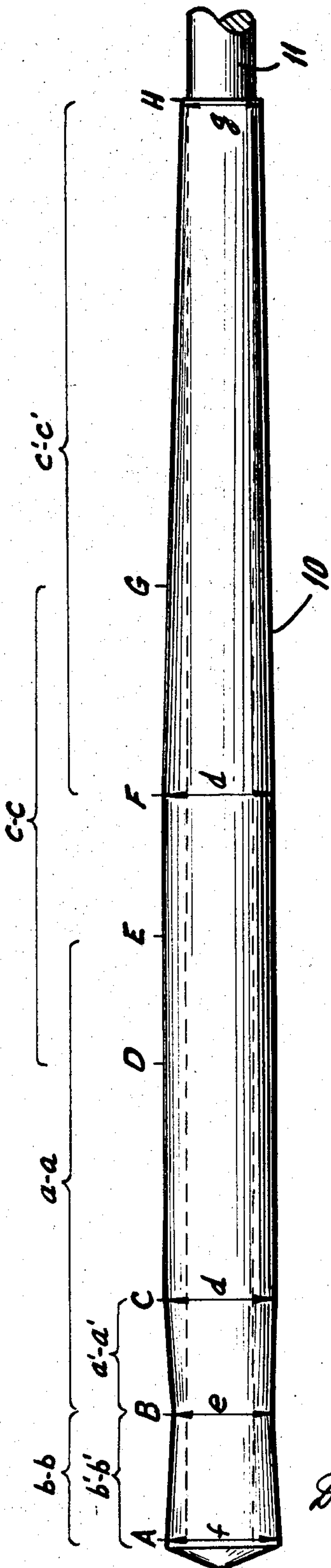


FIG. 2

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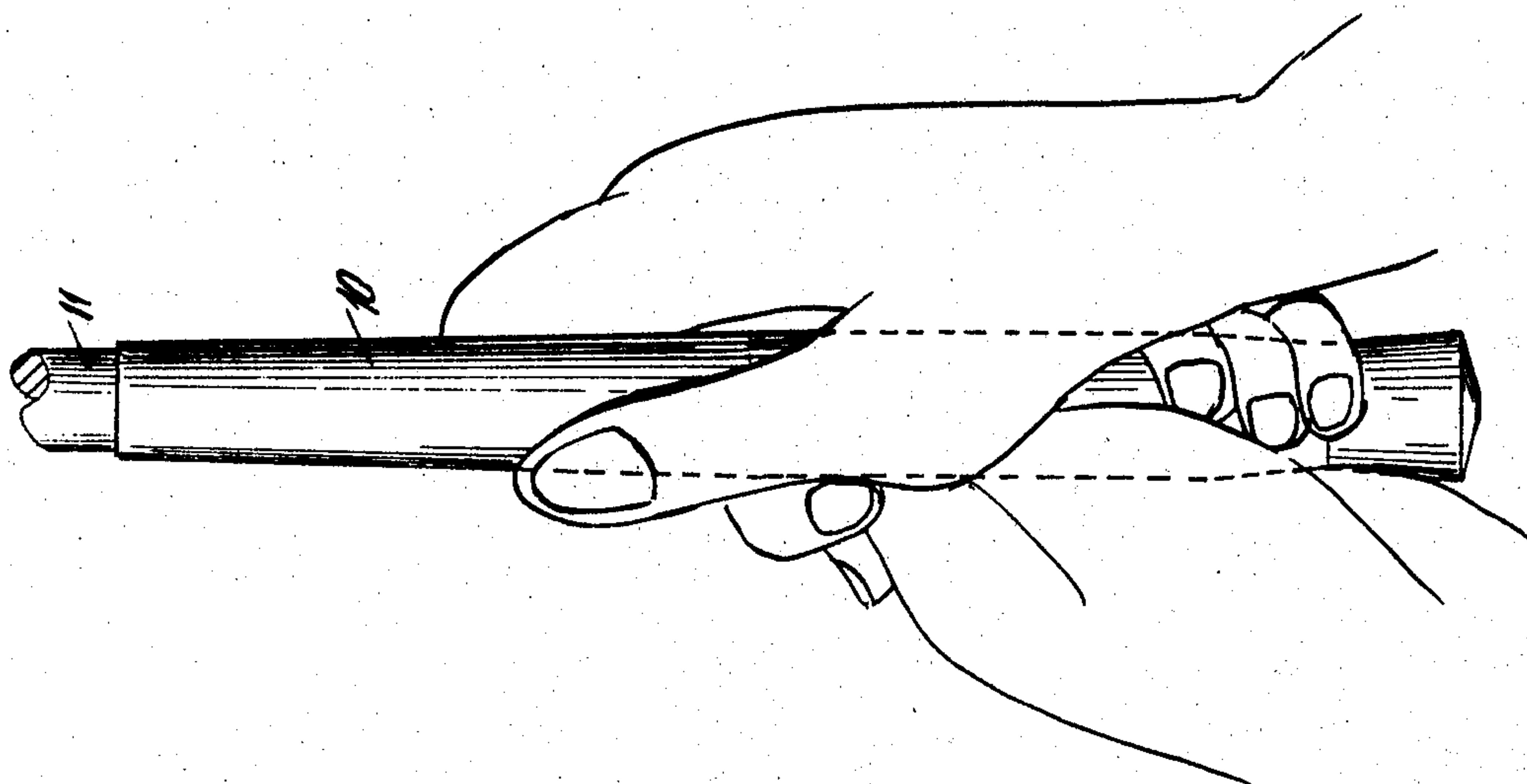
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Sheet 2 of 2



**F16.3c**

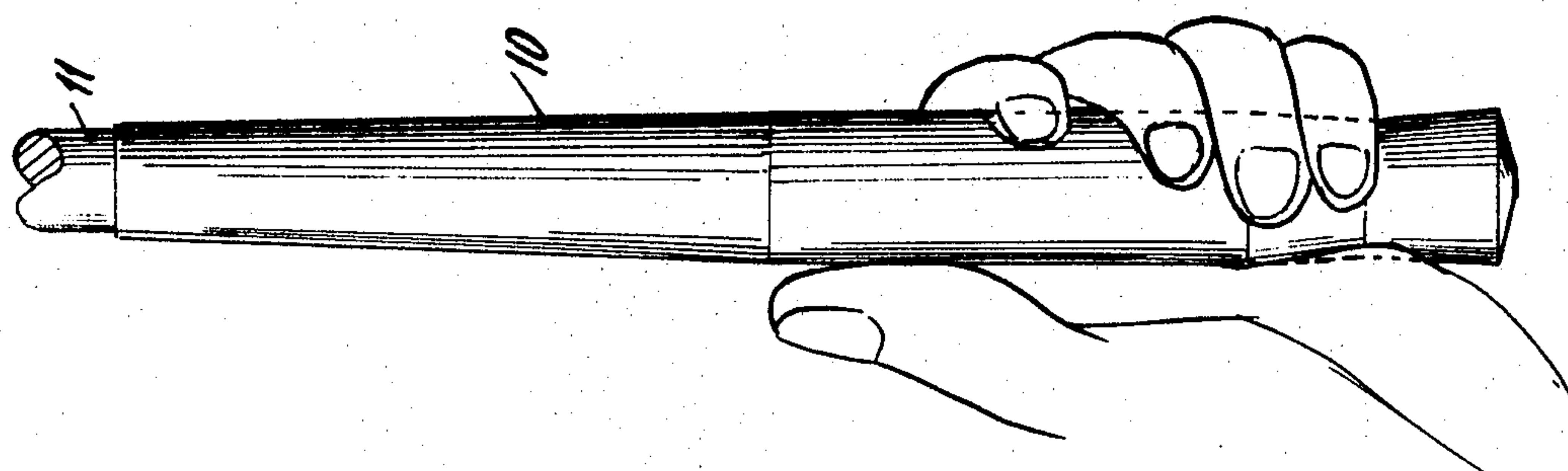
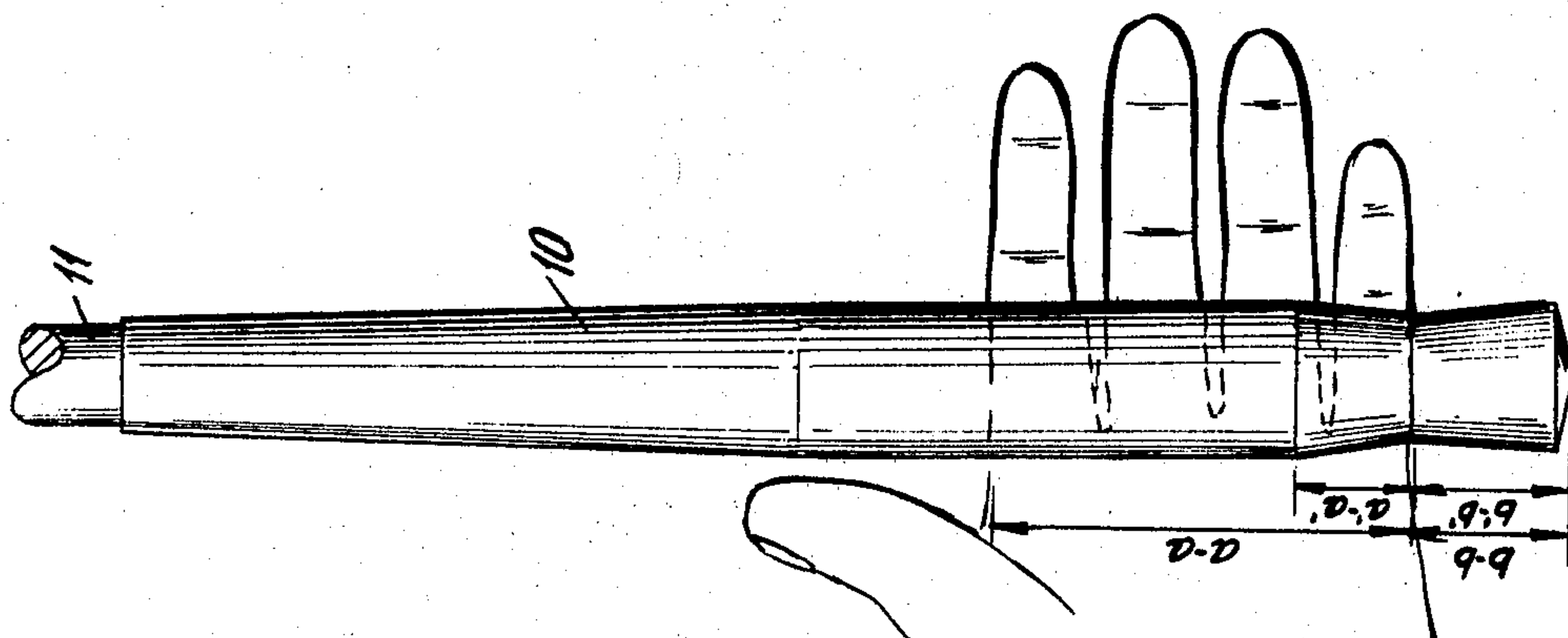


FIG. 3b



**FIG. 3a**

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3,441,276

## GOLF CLUB GRIP

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Continuation-in-part of application Ser. No. 396,129, Sept. 14, 1964. This application Nov. 14, 1966, Ser. No. 594,147

Int. Cl. A63b 53/14

U.S. Cl. 273—81.4

10 Claims

### ABSTRACT OF THE DISCLOSURE

A golf club grip permitting an improved distribution of gripping force throughout, which includes two abrupt tapers at the rear end of the grip to provide a notch of specified dimension for the little finger and palm of the golfer's hand closest to the body.

This application is a continuation-in-part of my co-pending application, Ser. No. 396,129, filed Sept. 14, 1964, now U.S. Patent No. 3,295,850.

This application relates to a novel golf club grip which provides an improved distribution of gripping force throughout a golfer's hands.

Early golf club grips were characterized by a gradually increasing perimeter from the end closer to the club head to a maximum at the end remote from the club head. Others had two gradual tapers from a maximum perimeter at an intermediate point and smaller perimeters at both ends. None of these prior art grips achieves an optimum distribution of the gripping force of the golfer's hands throughout the swing.

In my parent application, Ser. No. 396,128, now U.S. Patent No. 3,295,850, I disclosed and claimed a novel golf club grip providing a substantially improved gripping surface. That grip is characterized by a relatively abrupt taper at the portion grasped by the little finger and a portion of the ring finger of the hand farthest from the club head. By grasping that contour, a golfer's hand farthest from the club head maintains a firm grasp on the club throughout the swing. Now I have found that this embodiment may be improved further by an additional, abrupt taper at the end of the grip above the portion grasped by the little finger of the hand farthest from the club head. This second taper is located at the portion of the grip where the back edge of the palm of the golfer's hand farthest from the club head rests, that is, substantially at the upper end of the grip. I have found that this second taper in combination with the initial taper allows both the fingers and the palm of the golfer's hand farthest from the club head to maintain an even firmer grasp of the club throughout the swing.

It is a major objective of the present invention to provide an improved golf club grip of a contour allowing a firm grasping of the club throughout the swing by the golfer's hand farthest from the club head.

Other objectives and the advantages of the present invention will be more fully understood by a consideration of the preferred embodiments shown in the attached drawings, wherein:

FIGURE 1 is a side view of a preferred grip embodying the invention. FIGURE 2 is a side view of the grip mounted on a club shaft. FIGURES 3a-c illustrate a proper method of grasping the mounted grip.

The present invention is directed to an improved golf club grip which comprises two relatively abrupt tapers. The perimeter of the grip is at a minimum at the end of the portion grasped by the hand farthest from the club

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head and it increases progressively in the two longitudinal directions from that point, first towards the club head, or the front of the grip, reaching a maximum at the ring finger of the same hand and, second, towards the rear of the grip, reaching a second maximum substantially at the end of the grip.

Referring to FIGURE 1, there is shown a side view of an embodiment of the grip of the present invention comprising the grip 10. FIGURE 2 shows grip 10 mounted upon a club shaft 11. Grip 10 contains two portions  $a-a'$  and  $b-b'$ , each including a tapered section, subportions  $a'-a'$  and  $b'-b'$ , and a further portion  $c-c'$ .

Portion  $a-a'$  is normally grasped by the golfer's hand farthest from the club head, i.e. the left hand of a right-handed golfer. Thus the fingers of that hand extend from point B—normally at the outer edge of the little finger—to point E—normally at the outer edge of the index finger. Consequently, portion  $a-a'$ , for use by an adult male golfer, is about 3 to 4 inches in length. Tapered section  $a'-a'$  of portion  $a-a'$  is normally grasped by the little finger of the hand while the ring finger rests at about point C. Thus tapered section  $a'-a'$  extends longitudinally a length equal to the width of the little finger and a portion of the ring finger, which, for an adult golfer is between about  $\frac{1}{2}$  and  $1\frac{1}{2}$  inches. Tapered section  $b'-b'$  of portion  $b-b'$  extends from the rear end of portion  $a-a'$ , coincident with the end of tapered section  $a'-a'$ , to substantially the end of the grip at about point A. As will be shown hereafter, the rear edge of the palm rests upon tapered portion,  $b'-b'$ , and the juxtaposition of tapered sections  $b'-b'$  and  $a'-a'$  permits a firm grasping of the grip with the golfer's hand farthest from the club head. The length of tapered portion  $b'-b'$  is preferably between about  $\frac{1}{2}$  and  $1\frac{1}{2}$  inches longitudinally.

Portion  $c-c'$  is normally grasped by the golfer's hand closest to the club head, i.e. the right hand of a right-handed golfer. As shown in FIGURE 1, portion  $c-c'$  overlaps a part of portion  $a-a'$ , the result of the common overlapping or interlocking of the hands. The fingers of the right hand in this instance extend from point D to point G. Consequently, portion  $c-c'$ , for use by an adult male golfer, is about 3 to 4 inches in length, overlapping adjacent portion  $a-a'$  for about  $\frac{1}{2}$  to 1 inch. Preferably, as shown in FIGURE 1, the grip also has an additional gradually tapered section  $c'-c'$  extending from an intermediate point F in portion  $c-c'$  to point G at the end of the portion. As shown in FIGURE 1 this tapered section may be extended beyond the gripping portions to the end of the grip (point H). The longitudinal distance from point C to point F is about  $3\frac{1}{2}$  inches. I have found that this gradual taper at section  $c'-c'$  permits a firm grasping of the grip by the thumb and forefinger of the right hand.

As shown in FIGURES 1 and 2, the contour of grip 10 is such that the perimeter from point A to point C is minimum at point B and reaches two maximums at points A and C. Between points C and E the perimeter may suitably be uniform, although variations in that range, for example, to define a custom contour, may be desired. Preferably, the perimeter of the grip between points A and E is substantially round, although variations from a circular perimeter may be desired. For example, ridges or grooves may be desired to achieve a better gripping surface; or flattened portions may aid in proper alignment of the golf club with respect to the golfer's hands and the ball.

Beyond point D is the portion  $c-c'$  which is grasped by the golfer's hand closest to the club head. The perimeter of this last portion may be uniform, tapered or contoured as desired.

As also shown in FIGURE 1, the annular thickness of grip 10 varies between points A and C as well as from a minimum (a) at point B to maximums at about point A (b) and at point C (c). The variation in the annular thickness of the grip between these minimum and maximums will, of course, depend upon several factors, such as grip material, shaft dimension, individual preferences and club identity. It should be noted that the annular thickness of the grip may be reduced slightly as the grip is mounted as a result of expansion over the shaft. I have found that for typical woods and irons, having a steel shaft of about .575-.620 inch end diameter, and for typical golfer, the annular thickness preferably should be about 3/10 inch at point B (a), and about 1/2 inch at points A and C (b and c). In such an embodiment the longitudinal length of both tapered sections, a'-a' and b'-b', is preferably about 1 inch each.

Preferably the two abruptly tapered sections, a'-a' and b'-b', as shown in FIGURES 1 and 2 have gradually varying, conical perimeters along their longitudinal length. Thus the perimeter reaches a minimum at point B and increases immediately in both directions. However, the minimum perimeter of point B may be maintained, if desired, for a short longitudinal distance of about 1/16 inch preferably not exceeding about 1/8 inch. The abrupt tapers form angles with the axis of the shaft, as shown in FIGURE 2, of between about 5 and 10° (α) for section a'-a' and of between about 5 and 15° (β) for section b'-b'. Preferably α is about 8° and β is about 10°.

The round perimeter at point C is preferably maintained substantially cylindrically to point D and further to points E and F. Thereafter, a gradual taper from point F to point G is provided. This gradual taper forms an angle with the shaft axis of about 3-4° (γ).

The following table illustrates the dimensions of a preferred grip, unmounted and mounted on a steel shaft, suitable for a typical male golfer.

| FIGS. 1, 2 | Dimension (inch) |                 |         |                 |
|------------|------------------|-----------------|---------|-----------------|
|            | Unmounted        |                 | Mounted |                 |
|            | Actual           | Preferred range | Actual  | Preferred range |
| a-----     | .108             | .10-.12         | -----   | -----           |
| b-----     | .161             | .15-.17         | -----   | -----           |
| c-----     | .170             | .16-.18         | -----   | -----           |
| d-----     | .862             | .75-.80         | .912    | .85-1.00        |
| e-----     | .700             | .67-.73         | .770    | .75-.80         |
| f-----     | .836             | .80-.85         | .890    | .86-.92         |
| a-a'-----  | 3.5              | 3.0-4.0         | 3.5     | 3.0-4.0         |
| a'-a'----- | 1.0              | 0.5-1.5         | 1.0     | 0.5-1.5         |
| b-b-----   | 1.0              | 0.5-1.5         | 1.0     | 0.5-1.5         |
| b'-b'----- | 1.0              | 0.5-1.5         | 1.0     | 0.5-1.5         |
| c-c-----   | 3.5              | 3.0-4.0         | 3.5     | 3.0-3.5         |
| c'-c'----- | 5.0              | 4.5-5.5         | 5.0     | 4.5-5.5         |

Modifications of the above dimensions and the preferred ranges to provide children's or women's grips, while maintaining the two critical abrupt tapers, are within the skill of the art.

FIGURES 3a-3c illustrate a proper method of grasping a golf club having mounted thereon a grip of the present invention. In FIGURES 3a and 3b the left hand is shown grasping the grip at portion a-a with the little finger and part of the ring finger grasping at tapered section a'-a' and with the rear edge of the palm abutting part of tapered section b'-b' (FIGURE 3b). FIGURE 3c shows a typical grip, with the hands interlocked, again with the little finger and ring finger properly placed and with the rear edge of the left palm abutting tapered section b'-b'.

I have found that the present grip, due to the abruptness of the two tapered sections as described above, allows a firmer grasping of the club by the golfer's left hand. As disclosed in my parent application, Ser. No. 396,129, now U.S. Patent No. 3,295,850, the initial taper grasped primarily by the little finger allows a firm grasping by the left hand since the grip so tapered more nearly conforms to the shape of the hand. Now I have found that the second taper at the end of the grip in combination with

the first permits an even firmer grasping, particularly at the two critical moments of the golfer's swing—at the top of the backswing and at the moment of impact with the ball. With the early grip having a gradually increasing perimeter towards the end of the club, the little finger of the left hand more readily tends to open at the two critical moments—due to the increased leverage acting on the little finger (and to a decreasing extent on the ring and other fingers of the left hand). This increased leverage (tending to open the left hand and acting at the top of the backswing as the swing is reversed, and at the moment of impact with the ball as the right hand tends to cross over the left) is apparently negated substantially by the contour of my present grip. Although having no desire to be limited by any single theory or explanation, I believe that the initial taper allows the little and ring fingers to impart a greater force against the leverage countered thereby. In any event, I have found that the left hand more firmly grasps the club—both at the top of the backswing and at the moment of impact—with a grip having both abrupt tapers and embodying the present invention.

The grip of the present invention may be formed from any material suitably employed for golf club grips, such as molded rubber or leather. The grip may be molded according to the method described in my parent application, Ser. No. 396,129 now U.S. Patent No. 3,295,850. The surface of the grip may be smooth or irregular as desired. Variations in the annular thickness of the grip to define a custom contour or otherwise to modify the grip, particularly in the portion outside the tapered sections may also be desired.

I claim:

1. A golf club grip including  
a first portion adapted when mounted on a club shaft to be grasped by a golfer's hand farthest from the club head with the rear of the first portion being grasped by the little finger and the front of the first portion being grasped by the index finger; and  
a second portion extending from the rear of the first portion to substantially the rear end of said grip; wherein  
said first portion includes a section abruptly tapered outwardly in a radial direction from substantially the rear end of said first portion toward the front of said first portion for a length substantially equal to the width of the little finger and a portion of the width of the ring finger of the hand;  
said second portion includes a section abruptly tapered inwardly in a radial direction from substantially the rear end of said grip to the rear end of said first portion; and  
wherein the perimeter of said grip varies uniformly, from a maximum at substantially the rear end of the abruptly tapered section of said second portion, to a minimum at the forward end of said tapered section and again varies uniformly to a maximum at the forward end of the abruptly tapered section of said first portion.
2. The golf club grip of claim 1, wherein the longitudinal length of the abruptly tapered section of said first portion is substantially between 1/2 and 1 1/2 inches.
3. The golf club grip of claim 1, wherein the length of both abruptly tapered sections is about 1 inch.
4. The golf club grip of claim 1, wherein the perimeter of the grip is round and the grip is a tubular sleeve having an annular thickness of about 0.10-0.12 inch at the minimum and about 0.15-0.18 inch at each maximum.
5. The golf club grip of claim 1, wherein the abruptly tapered sections are substantially conical, forming angles with the axis of the grip of between 5 and 10° for the tapered section of the first portion and between 5 and 15° for the tapered section of the second portion.
6. The golf club grip of claim 5, wherein the first portion has a substantially cylindrical untapered section.

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7. The golf club grip of claim 6, wherein a third portion, adapted when mounted on a club shaft to be grasped by the golfer's other hand overlapping or interlocking the hand grasping said first portion, includes a section, gradually tapered inwardly from an intermediate point in said third portion towards the forward end of the grip, forming an angle of between 3 and 4° with the axis of the grip.

8. The golf club grip of claim 1, wherein the tapered sections are substantially conical, forming angles with the axis of the grip of substantially 8° for the tapered section of the first portion and of substantially 10° for the tapered section of the second portion.

9. The golf club grip of claim 8, wherein the first portion has a substantially cylindrical untapered section.

10. The golf club grip of claim 9, wherein a third portion, adapted when mounted on a club shaft to be grasped

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by the golfer's other hand overlapping or interlocking the hand grasping said first portion, includes a section, gradually tapered inwardly from an intermediate point in said third portion towards the forward end of the grip, forming an angle of between 3 and 4° with the axis of the grip.

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