

Aug. 25, 1925.

1,551,203

E. J. MILLS

GOLF CLUB

Filed Dec. 5, 1922

2 Sheets-Sheet 1

Fig. 2. Fig. 3.

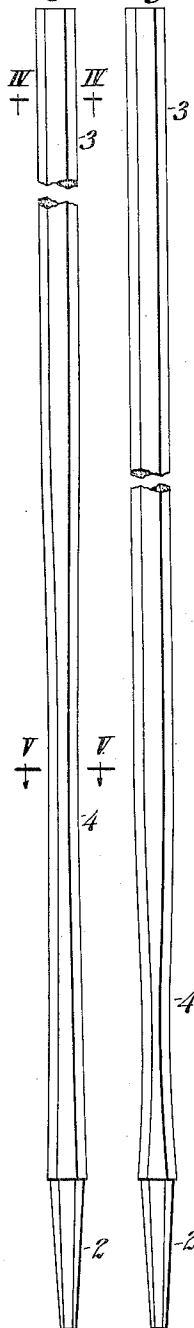


Fig. 4.

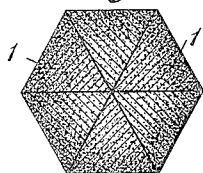


Fig. 5.

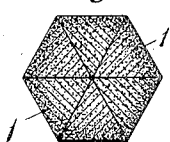
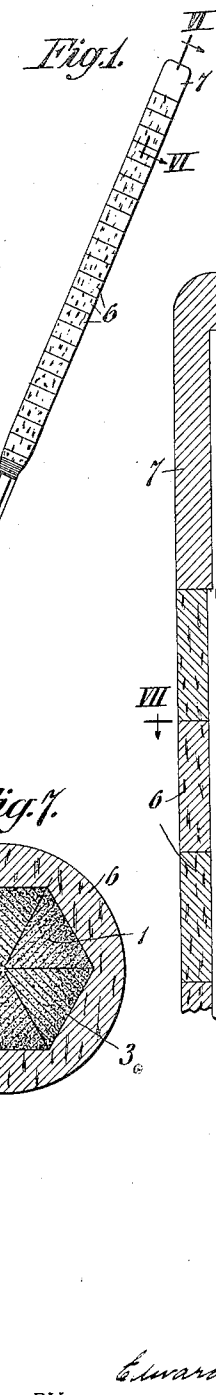


Fig. 1.



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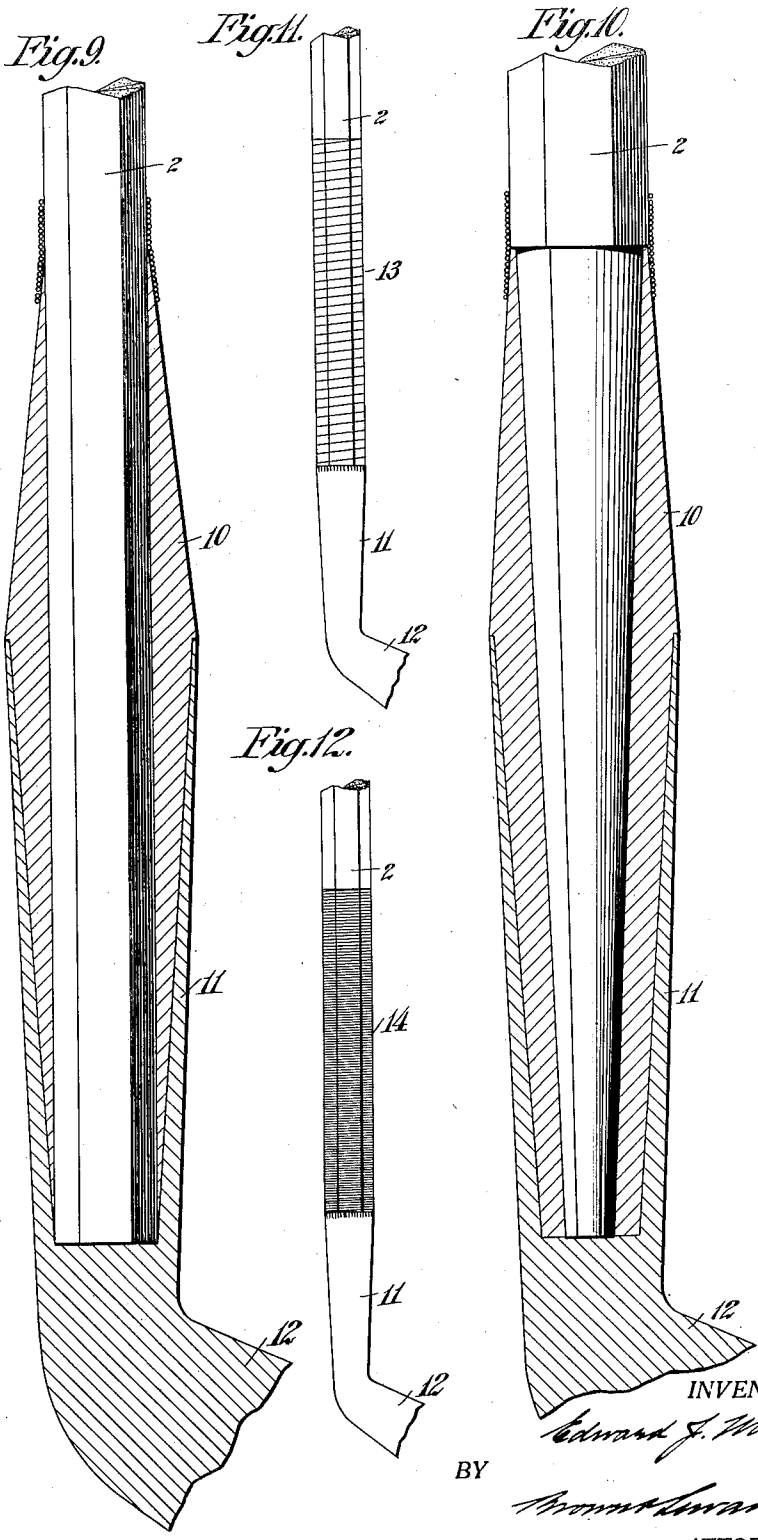
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

EDWARD J. MILLS, OF NEW ROCHELLE, NEW YORK, ASSIGNOR TO H. L. LEONARD ROD CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

GOLF CLUB.

Application filed December 5, 1922. Serial No. 605,043.

To all whom it may concern:

Be it known that I, EDWARD J. MILLS, a citizen of the United States, and resident of New Rochelle, in the county of Westchester and State of New York, have invented a new and useful Improvement in Golf Clubs, of which the following is a specification.

The object of my invention is to produce a novel golf club shaft and a novel handle therefor.

Practical embodiments of my invention are represented in the accompanying drawings, in which

Fig. 1 represents a golf club with my improvements embodied therein.

Fig. 2 represents on an enlarged scale my improved golf club shaft with one form of ensmallled intermediate portion.

Fig. 3 represents a similar view of another form of ensmallled intermediate portion.

Fig. 4 represents on a greatly exaggerated scale a cross section taken in the plane of the line IV—IV of Fig. 2.

Fig. 5 represents a similar section taken in the plane of the line V—V of Fig. 2.

Fig. 6 represents a greatly enlarged detail longitudinal section taken in the plane of the line VI—VI of Fig. 1.

Fig. 7 represents a cross section taken in the plane of the line VII—VII of Fig. 6.

Fig. 8 represents a cross section through a modified form of shaft.

Fig. 9 represents a detail longitudinal section showing a wood reinforcement for the head portion of one form of shaft.

Fig. 10 represents a similar view showing a wood reinforcement for the head portion of another form of shaft.

Fig. 11 represents a similar view showing a wrapped tape reinforcement with the head portion of a straight taper shaft.

Fig. 12 represents a similar view showing a wrapped thread reinforcement for a straight taper shaft.

In the embodiment shown in Figs. 1 to 7 inclusive, the split bamboo golf club shaft is shown as composed of an annular series of longitudinal bamboo sections 1 glued together with the skin or enamel on the outside. The shaft comprises the head portion 2, the handle portion 3 and the intermediate portion 4. In the form shown in Figs. 1 and 2, the shaft is shown as having an intermediate portion gradually ensmallled in

cross section from the head portion and gradually ensmallled in cross section from the handle portion. In the form shown in Fig. 3, the intermediate portion is shown as rapidly ensmallled in cross section from the head portion and gradually ensmallled in cross section from the handle portion. These are only two of many different shapes which the shaft might assume.

The end of the enlarged head portion 2 of the shaft is suitably shaped to snugly fit within the socket of the desired head 5 of the club.

The handle for the golf club shaft is cork or other suitable material, preferably cork.

The handle is shown as comprising a plurality of compressed cork rings 6 which embrace the handle portion 3 of the shaft and are firmly glued together and to the shaft. The handle end of the shaft is embraced and protected by a handle cap 7 of suitable material, such for instance as hard wood.

In the embodiment shown in Fig. 8, the golf club shaft comprises the inner and outer annular series of longitudinal sections glued together, the outer sections 8 being bamboo with the skin or enamel outside and the inner sections 9 being wood. I have found that by this combination of annular series of bamboo and wood longitudinal sections, I am enabled to not only very permanently glue the sections together, but also produce a very superior shaft, which is suitably reinforced by the wood core to prevent any tendency of the shaft to break under the severe strains to which a golf club shaft is subjected.

In the form shown in Fig. 9, an oppositely tapered reinforcement 10 is provided for a straight tapered shaft at its head portion, the said reinforcement having one tapered portion extending into the socket portion 11 of the club head 12 and the other tapered portion extending along the head portion of the shaft. This reinforcement is glued to the shaft and glued and secured in the usual manner in the socket 11 and serves as a spacing reinforcement between the bamboo of which the shaft is formed and the head. This is particularly well adapted for the attachment of split bamboo shafts to metal heads, to absorb the shocks that would tend to split the shaft. In the form shown in Fig. 10, the oppositely tapered reinforcement 10 is applied to a split bamboo shaft

having the outer end of its head portion tapered. In all other respects it is quite similar to the form shown in Fig. 9.

Fig. 11 represents a form in which the split bamboo golf club shaft at its head portion is reinforced for a greater or lesser distance beginning at the head, by a wrapped tape 13.

In Fig. 12 I have shown the head portion of the split bamboo golf club shaft as provided for a greater or lesser distance with a wrapped thread reinforcement 14. These latter reinforcements serve to deaden the shocks that tend to split or break the shaft.

What I claim is:—

1. A golf club shaft having a handle comprising a plurality of cork rings embracing the shaft, and a handle cap of hard material embracing and protecting the handle end of the shaft.

2. A golf club shaft having a handle comprising a plurality of compressed cork rings embracing the shaft, and a handle cap of hard material embracing and protecting the handle end of the shaft.

3. A golf club shaft comprising an annular series of longitudinal bamboo sections glued together, and a cork handle therefor provided with a handle cap embracing and protecting the handle end of the shaft.

4. A golf club shaft comprising an an-

nular series of longitudinal bamboo sections glued together, and a compressed cork handle therefor provided with a handle cap embracing and protecting the handle end of the shaft.

5. A golf club shaft comprising an annular series of longitudinal bamboo sections glued together, a handle comprising a plurality of rings of suitable material embracing the shaft, and a handle cap embracing and protecting the handle end of the shaft.

6. A golf club shaft comprising an annular series of longitudinal bamboo sections glued together, a handle therefor comprising a plurality of cork rings embracing the shaft, and a handle cap embracing and protecting the handle end of the shaft.

7. A golf club shaft comprising an annular series of longitudinal bamboo sections glued together, a handle therefor comprising a plurality of compressed cork rings embracing the shaft, and a handle cap embracing and protecting the handle end of the shaft.

8. A golf club shaft comprising inner and outer annular series of longitudinal sections glued together, the outer sections being bamboo and the inner sections wood.

In testimony, that I claim the foregoing as my invention, I have signed my name this 20th day of November 1922.

EDWARD J. MILLS.