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W. J. HADDEN

1,802,507

GOLF CLUB

Filed Aug. 23, 1928

Fig. 2.

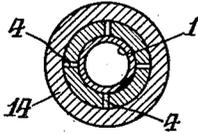


Fig. 1.

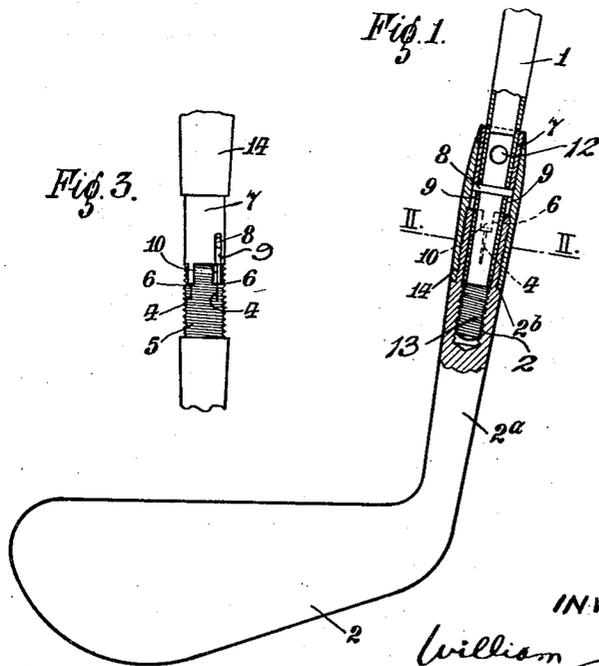
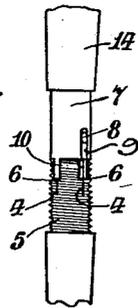


Fig. 3.



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GOLF CLUB

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This invention relates to golf clubs and refers to that class of such in which the parts, namely, the shaft (preferably of hollow steel) and the head are secured together mechanically by means involving a clamping action.

In my prior United States patent specification No. 1,665,811 there is described a golf club comprising, a shaft, a head having a contractible socket adapted to fit snugly on one end of said shaft, said shaft being adapted to screw into said head, and means for contracting said socket so as to clamp it on the shaft. While this construction of golf club is satisfactory in practice it has been found that in some cases creep or relative rotation between the shaft and head is liable to take place. The object of this invention is to provide means for positively preventing relative rotation between the shaft and the head.

In order that the invention may be clearly understood and readily carried into practice, a practical embodiment of a golf club will now be described, simply by way of example, reference being had to the accompanying drawings, wherein:—

Fig. 1 is a longitudinal sectional view of a golf club with an iron head secured thereto.

Fig. 2 is a sectional view on the line II—II in Fig. 1.

Fig. 3 is a fragmentary view of the joint between the head and the shaft with the clamping means withdrawn.

The assembled club shown in the drawing comprises two main parts, made separately, namely, the steel shaft 1 and the iron head 2.

The iron head 2 is secured to the steel shaft 1 by making the end of the usual socket portion 2^a of the head of reduced thickness at 2^b, this end being split longitudinally by four slits 4 into four tongues and tempered and having its exterior surface provided with a screw thread 5.

The slits 4 in the socket open out into recesses 6, in the end of the socket. An intermediate locking sleeve 7 is mounted on the shaft, the sleeve being fixed against

rotation, relatively to the shaft, by the pin 8 engaging in diametrically opposite recesses 9 in the sleeve and this sleeve has two projections 10 engaging with two diametrically opposite of four recesses 6 formed in the socket of the head and spaced apart at intervals of 90°. Moreover, the head is internally threaded at 2^c.

The lower end of the shaft is arranged to fit snugly into the socket which is tapered to correspond to the shaft and this end is provided with a plug 11 secured to the shaft, for instance, by rivets 12 said plug having a screwed extension 13 so that the head selected could be readily attached to the shaft selected by screwing the shaft into the socket. An internally threaded ferrule 14 is provided fitting over the locking sleeve and adapted to be tightened over the slotted end of the socket to cause it to contract circumferentially and thereby grip firmly the shaft and clamp the head thereto. This locking sleeve and its pin and projection thus act to lock the head to the shaft.

The locking sleeve is made a sliding fit on the lower end of the shaft, and if both are tapered, a certain amount of play is left between the sleeve and the shaft to enable the former to be slid on the shaft as hereinafter described.

The method of securing the head to the shaft is as follows:—The locking sleeve 7 is slid upwardly on the shaft 1 clear of the pin 8, the shaft is then screwed home in the socket until the projecting ends of the pin 8 lie just above two of the recesses 6. The locking sleeve is then slid downwardly on the shaft so that its recesses 9 engage the ends of the pin 8 and at the same time its projections 10 engage the recesses 6. In this way the shaft is positively locked against rotation in the head. The ferrule is then slid down over the socket and screwed home so that the upper end of the socket is contracted and clamps on the shaft.

In the case of wooden heads, a short length of tubing, or a hollow collar, may be provided on the neck to form the socket for the reception of the steel shaft. The collar, or tube, would be screwed internally and a

clamping ferrule and other parts provided and arranged as for iron heads.

For ordinary clubs, i. e. for clubs for right handed players, the screw threads on the shaft and in the socket are left handed so that at every stroke there is a tendency to tighten up the screw engagement. Right hand screw threads are desirable for left handed players.

It will be appreciated that the foregoing manner of manufacturing golf clubs is a great improvement over the existing manner. A model exactly as desired by each player can be readily built up from standardized parts. Then again there is a considerable saving in packing and transport as a number of shafts can be packed together into small bulk and likewise a number of grips and a number of heads.

The heads are made by machinery or otherwise to certain standard patterns, and the shafts are made to certain standard lengths. At the factory, sets of each pattern of head and shaft would be kept and would always be available ready for assembly.

The dealer or user would take a tubular steel shaft of suitable length, then a finished head of suitable shape, weight, and lie, and affix it to the shaft, so that a completely finished club would be formed, built up specifically to suit the user who, if at hand, can test the club thus formed and, if necessary, change its component parts for another part or other parts.

I claim:

1. In a golf club, the combination with a shaft, a head, a socket on said head split longitudinally into tongues, and a ferrule adapted to screw onto the split portion of the socket to contract it and clamp it on the shaft, of a projecting member in said shaft, recesses in the upper end of said socket, a sleeve slidably mounted on the lower end of said shaft, recesses on the lower end of said sleeve adapted to engage said member, and projections on the lower end of said sleeve adapted to engage said recesses in the upper end of the socket.
2. In a golf club, the combination with a tubular metallic shaft, a head, a socket on said head split longitudinally into tongues, and a ferrule adapted to screw onto the split portion of the socket to contract it and clamp it on the shaft, of a pin projecting diametrically through said shaft near the lower end thereof, at least two recesses in the upper end of said socket, a locking sleeve slidably mounted on the lower end of said shaft, a pair of diametrically opposite recesses on the lower end of said locking sleeve adapted to engage said pin in said shaft, and two diametrically opposite longitudinally extending projections on the lower end of said sleeve adapted to engage said recesses in the upper

end of the socket, whereby relative turning movement between the shaft and head is positively prevented.

3. A golf club comprising in combination, a head, a contractible socket on said head, an internally threaded part in said socket, an externally threaded part on said socket, at least one recess in the top part of said socket, a shaft, an externally threaded part on the lower end of said shaft adapted to engage with the said internally threaded part in the socket, at least one radial projection on said shaft, a locking sleeve slidably mounted on said shaft, at least one recess in the lower end of said locking sleeve adapted to co-operate with said projection or projections on the shaft, and at least one projection on said sleeve adapted to co-operate with the recess or recesses in the top part of said socket, whereby relative rotation between the shaft locking sleeve and socket and head is positively prevented, and an internally threaded ferrule for contracting said contractible socket in order to clamp it on the shaft.

In testimony whereof I affix my signature.
WILLIAM JAMES HADDEN.

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