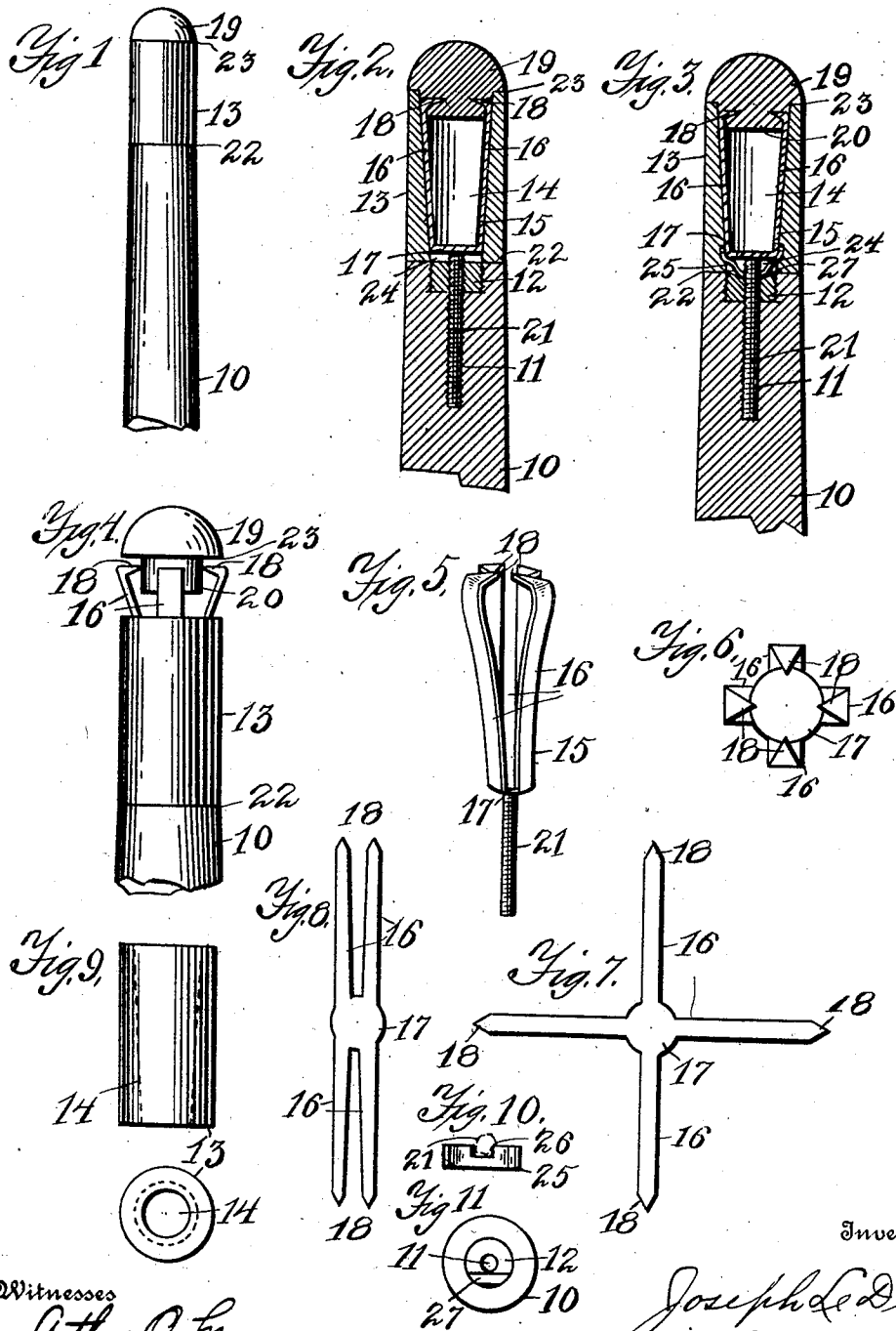


J. LE DUC,
BILLIARD CUE TIP HOLDER.
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1,033,071.

Patented July 16, 1912.



Witnesses

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BILLIARD-CUE-TIP HOLDER.

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To all whom it may concern:

Be it known that I, JOSEPH LE DUC, a citizen of the United States, residing at Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Billiard-Cue-Tip Holders, of which the following, taken in connection with the accompanying drawings, is a specification.

The invention relates to devices for securing leather tips to billiard cues; and the object of my improvement is to provide mechanism for attaching the leather tip to the billiard cue in combination with a ferrule preferably of ivory or wood fiber, so arranging the construction as to give said ferrule a full bearing upon the end of the cue and upon the leather tip yet holding the parts so firmly that the leather tip cannot be driven into the ferrule or disarranged by a hard impact against the ivory ball; and the invention consists in the arrangement and combination of the parts as shown in this specification and the accompanying drawings and pointed out in the claims.

In the drawings Figure 1 is an elevation of the end of a billiard cue with the tip attached thereto with a ferrule. Fig. 2 is a lengthwise sectional view of the same showing the construction of the attaching mechanism for the leather tip; and Fig. 3 is a similar view showing a lock for the attaching mechanism. Fig. 4 is a side elevation of the tip, ferrule and clamp in the process of attaching the leather tip to the cue. Fig. 5 is a perspective view of the spring clamp for the leather tip removed from the cue; and Fig. 6 is an endwise view of the same. Fig. 7 is a plan view of the sheet metal blank as struck out by the die preparatory to bending into the clamping form; and Fig. 8 is a similar view of a modification of the blank shown in Fig. 7. Fig. 9 shows side and end elevations of the ferrule. Fig. 10 is a plan view of the locking clip for the clamp to prevent its turning or loosening on the end of the cue stick. Fig. 11 is a plan view of the end of the cue stick showing the notch in the countersunk nut in the end of the stick.

Like numerals of reference refer to corresponding parts in the several views.

The numeral 10 designates the cue stick

which is cut square across at its smaller end and has the threaded hole 11 therein with a round nut 12 which is preferably threaded on its outer periphery so as to be turned into a threaded opening in the end of the cue stick which opening is so placed as to cause the threaded hole through the center of the nut 12 to coincide with the hole 11 so that a screw may be turned into both openings.

The numeral 13 designates a ferrule, preferably of ivory or wood fiber, which has a conical opening 14 therein which is larger at the outer end than the end adjacent the cue stick 10 to receive therein the spring clamp 15. The spring clamp 15 is preferably made from a single piece of spring sheet steel struck out by means of a suitable die in the forms shown in Figs. 7 or 8 so as to provide the four jaws 16 extending out from a round base 17 and bent into the clamping position shown in Fig. 5 by means of a suitable die, the points 18 of the arms or jaws 16 having first been turned in the same direction so as to point toward one another when bent to the clamping position.

The base 17 with the upturned jaws 16 is preferably round and conical in shape to fit closely within the cone-shaped opening 14 in the ferrule 13, the jaws 16 being normally larger in their circumference than the mouth of the opening 14 in the ferrule 13 so that they will spring apart to receive therebetween the leather tip 19. The leather tip 19 is preferably made with a round projection 20 smaller in diameter than the tip to provide a shoulder 23 on tip 19 and to fit closely within the opening 14 when held by the points 18 of the jaws 16, said points 18 being impinged in the leather by forcing the clamp 15 into the opening 14 of the ferrule 13.

In assembling the parts the leather tip 19 is inserted between the points 18 of the jaws 16 and the clamp 15 is then pressed into the ferrule 13 the conical shape of the opening 14 and similar conical shape of the clamp 15 cause the sides of said clamp to fit firmly against the inner walls of the opening 14 and to drive the points 18 into the round projection 20 of the leather tip 19, thereby firmly holding the same so that the shoulder 23 of the leather tip rests firmly against the end of the ferrule 13.

A screw 21 is attached to the under side

of the round base of the clamp 15 for attaching the assembled tip to the cue stick 10, which screw 21 fits the thread of the hole 11 in the cue stick 10 and nut 12. The length of the clamp 15 is considerably less than the length of the opening 14 in the ferrule 13 thereby leaving an opening 24 between the lower end of the clamp 15 and the nut 12 in the end of the cue 10 so that said clamp 15 must invariably draw against the inner walls of the ferrule 13 and said ferrule 13 must also bear squarely against the end of the cue at the joint 22 and also as squarely against the shoulder 23 of the tip 19 so that said ivory ferrule and the wooden cue receive the full impact of the ball as it strikes against the leather tip 19.

In order to lock the clamp 15 against turning and loosening when once turned to place, a locking clip 25 is provided which is curved in its central portion and has the opening 26 in one side. A notch 27 is provided in the upper surface of nut 12 into which the locking clip 25 drops when clamp 15 is turned into place. The sides of the notch 27 hold the locking clip 25 firmly in position so that it cannot turn, and the downward pressure of the clamp 15 upon the ends of the curved locking clip cause it to impinge on the sides of the threaded screw 11 thereby holding firmly on said screw and locking all the parts in position. The attaching mechanism may be used without the locking clip 25 but it is preferred to use the same since it firmly locks all the parts.

I claim as new—

1. A cue tip holder comprising a ferrule, a tip having a shoulder fitting against the end of said ferrule, a spring sheet metal clamp, pointed spring jaws on said clamp to impinge in said tip, said clamp fitting within said ferrule, a screw on the lower end of said clamp, and a cue stick having a

threaded hole in its smaller end to receive said screw and hold all the parts.

2. A cue tip holder comprising a ferrule having a conical opening therein, a conically-shaped spring sheet metal clamp to fit within said conical opening, a tip having a shoulder fitting against the end of said ferrule, pointed spring jaws on said clamp to impinge in said tip, a screw on the lower end of said clamp, and a cue stick having a threaded hole in its smaller end to receive said screw and hold all the parts.

3. A cue tip holder comprising a ferrule having a conical opening therein, a tip having an extension to fit within said ferrule and a shoulder to rest against the same, a one piece sheet metal clamp to fit within said conical opening, a plurality of pointed spring jaws on said one piece clamp, a screw attached to the base of said clamp, and a cue stick having a threaded opening therein to receive said screw and hold said parts.

4. A cue tip holder, comprising a ferrule, a tip having a shoulder to fit on the end of said ferrule and extend within the same, a spring metal clamp having pointed spring jaws to impinge in said tip, a cue stick, a nut inset in the smaller end of said cue stick having a threaded hole therethrough, a screw on said spring clamp fitting said threaded hole in said threaded nut to hold said clamp ferrule and tip on the end of said cue stick, said nut having a notch therein, and a locking clip having a notch in one side and bent to engage the lower end of said clamp and the screw thereon and the notch in said nut in locking engagement to hold said clamp from turning.

In testimony whereof I have affixed my signature in the presence of two witnesses.

JOSEPH LE DUC.

Witnesses:

A. W. KETTLE,
H. U. HARRIS.