

No. 693.254.

Patented Feb. 11, 1902.

E. A. FOLSOM.
BILLIARD CUE TIP.

(Application filed June 26, 1901.)

(No Model.)

Fig. 1.

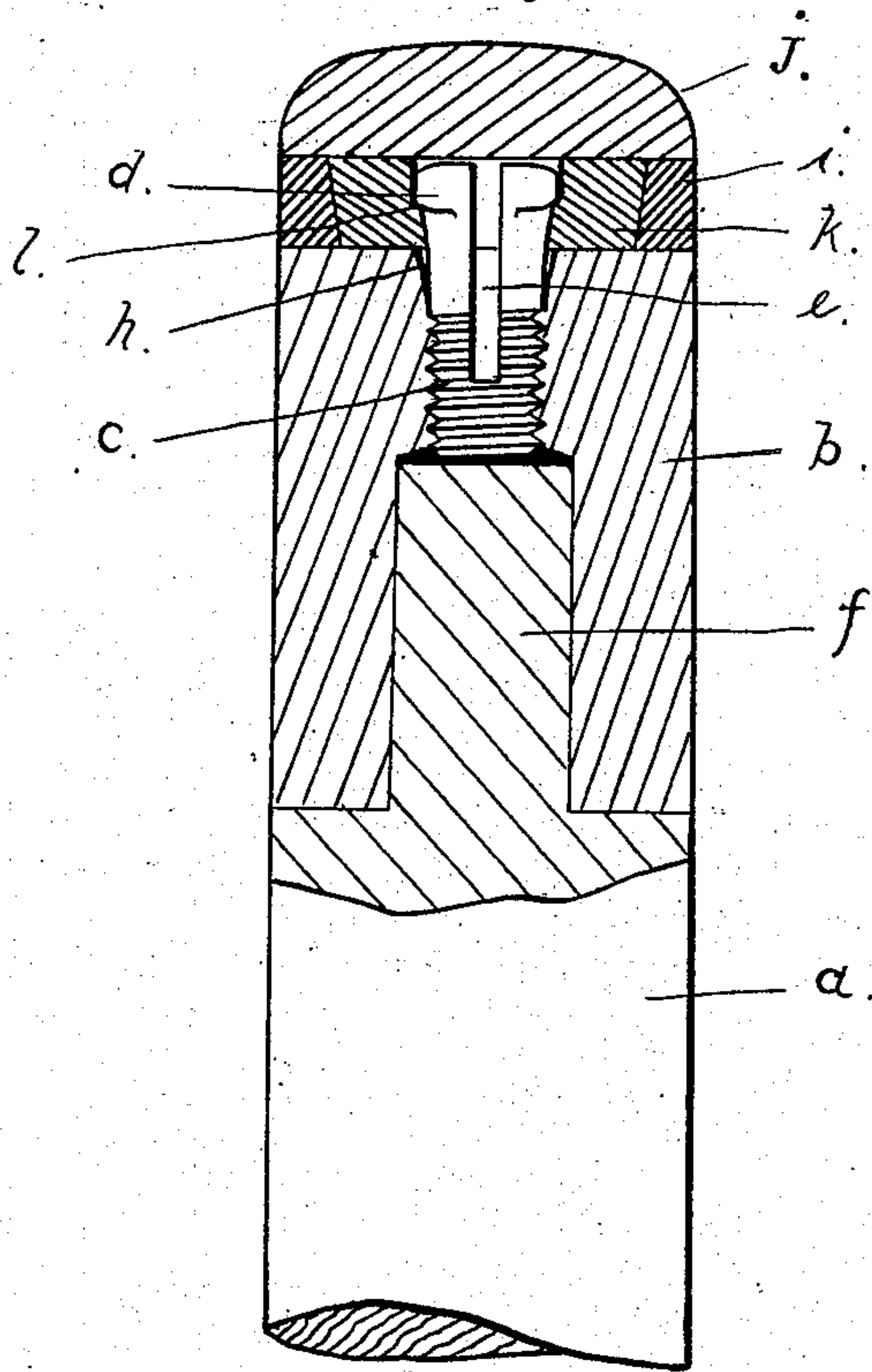


Fig. 2.

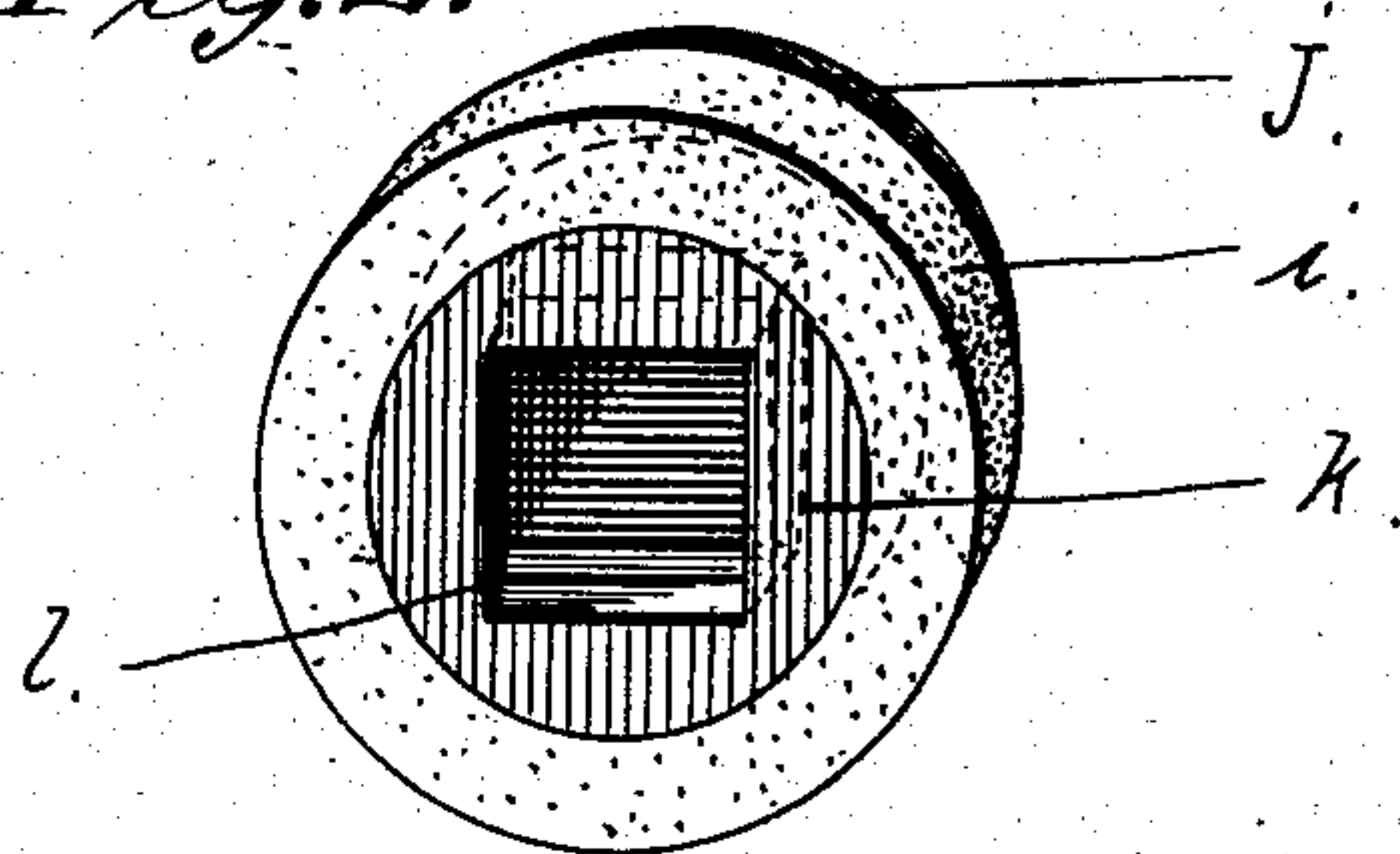
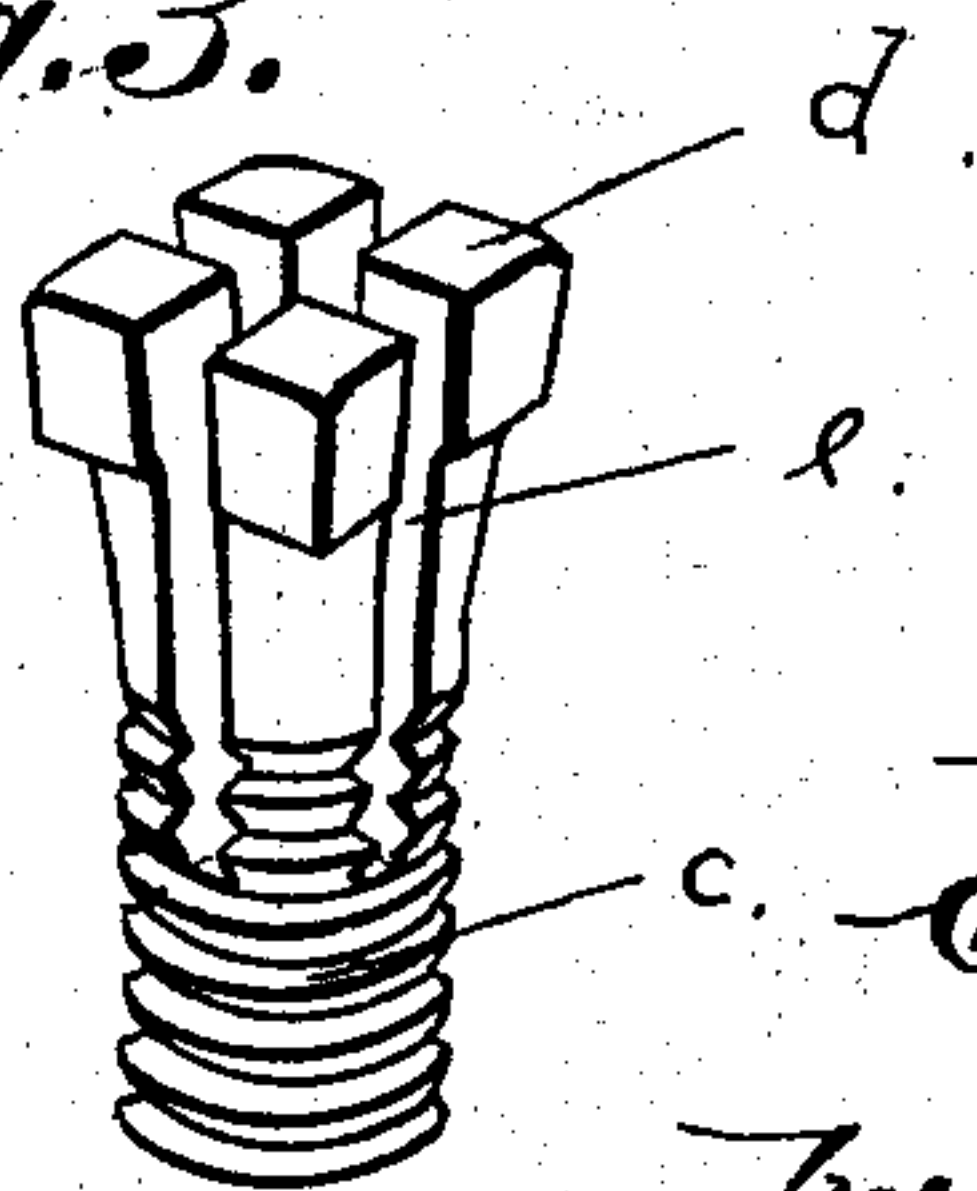


Fig. 3.



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BILLIARD-CUE TIP.

SPECIFICATION forming part of Letters Patent No. 693,254, dated February 11, 1902.

Application filed June 26, 1901. Serial No. 66,081. (No model.)

To all whom it may concern:

Be it known that I, ESTES A. FOLSOM, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Billiard-Cue Tips, of which the following is a specification.

This invention relates to billiard-cues, and especially to the construction of removable tips therefor, and has for its object the construction of a tip of this character which shall be easily removable by the hand and yet secured to the cue in such a manner as to withstand the shocks incidental to the game in which it is used without coming off or without working loose; and the invention consists in the construction fully described in the following specification and clearly defined in the claims forming part thereof.

In the drawings forming part of this application, Figure 1 is a sectional elevation, on a large scale, of a cue having a removable tip applied thereto according to my invention. Fig. 2 is a perspective view of the under side of the tip. Fig. 3 is a perspective view of the expansible head for holding the tip.

I am aware that various devices for removably securing a leather tip to a billiard-cue have been constructed, none of which, to my knowledge, have been free from serious faults, which have condemned them. The principal defect in these prior constructions is the liability of the tip or the means for securing it to work loose when the cue is in use, owing to the fact that the screw is used in all of them as the clamping or securing means for the tip, and under the successive shocks the parts of the structure are subjected to by the use of the cue the screw-held parts will loosen. Furthermore, the putting on and the removal of tips will cause the wearing of the threads of the screw-united parts to such an extent that before long the latter must be replaced with new parts.

Having in mind the above objections, I have constructed the herein-described means for removably securing a tip to a cue in a manner which overcomes them.

In carrying out my invention the cue *a* is turned off at its smaller end to receive the bolster *b*, made of bone, ivory, or other suitable material, which is cemented to the end of the

cue in the usual manner. This bolster is tapped out centrally to receive the threaded shank of the laterally-expansible head *c*, which is made of steel suitably tempered and provided with a squared head *d*, which is sawed longitudinally, as shown, preferably in transverse directions through the center of the head, the saw cuts (indicated by *e*) extending down into the shank a sufficient distance to impart the requisite spring action to the divided parts constituting the head. The head *d*, after having been sawed as described, is screwed very tightly into the bolster before the latter is cemented to the end of the cue and the counterbored end of the bolster which receives the turned-down end *f* of the cue being of such depth that said end *f* will not bottom therein; but the bearing of the bolster will be entirely on the shoulder *g*, resulting from turning down the end of the cue. This provides a shallow cavity between the end of the end *f* and the end of the counterbore in the bolster for the cement, which in hardening serves to still more securely lock the shank of the head *c* immovably in the bolster. The hole in the bolster into which the said shank is screwed is slightly reamed out at its upper end, as shown at *h*, to provide room for the lateral spring of the separated members of the head *c*. When the latter is in operative position in the bolster, the squared portion thereof projects above the end of the bolster for a distance somewhat less than the thickness of the hard fiber washer *i*, to which the leather tip *j* is cemented. Located centrally in this washer is a metal disk or plate *k* of the same thickness as the washer. This is inserted in a hole tapering inwardly from the top thereof, the sides of the plate being similarly tapered. The center of this plate has formed therein a square socket for receiving the squared end of the head *c*, said socket having therein a slight shoulder *l*, (shown in Figs. 1 and 2,) with which the lower edge of the said squared part of the head engages when the parts are put together, as in Fig. 1. The disk or plate *k* is forced into its place in the washer, both parts being of the same thickness, and the leather tip then cemented to the upper side of the washer.

The squared end of the head *c* is of slightly-larger cross-sectional area than that of the

lower end of the socket in the plate *k*, and the upper surface of the head is slightly convex, to the end that when the tip is applied to the end of the head to be forced down over it the lower edges of the socket bearing upon the said convex surface of the head will cam the separated portions of the head together toward the center of the head sufficiently to permit the entrance of the latter into the contracted lower end of said socket, said head portions expanding immediately upon gaining entrance into the socket, and the overhanging portions of the squared head engage the shoulder *l* firmly, locking the tip to the cue. In practice this shoulder or the lower edge of the squared portion of the head *c* is so inclined relative to the axis of the latter as to cause the expansion of the head portions to exert a down pressure on the tip to always hold it firmly to its seat. It is to be remembered also that the top of the head *c* lies slightly below the level of the upper side of the disk *k* and washer *i*, to the end that the head never may be subjected to any shock resulting from the impact of the tip with a billiard-ball.

To remove the tip, it is only necessary to grasp the cue in one hand near the small end, and with the thumb and finger the tip may be pried off the head, the separated spring ends of the latter yielding in the proper direction when force is applied thereto from one side upwardly.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent of the United States, is—

1. A billiard-cue, a suitable bolster on the tip end thereof, a tip-securing head consisting of a shank fixedly secured in the bolster, a head on the shank upstanding above the end of the bolster, said head consisting of outwardly-springing portions; combined with a leather tip for the cue, a metal plate secured to the under side thereof, there being a tapered socket in said plate, the entrance of which is of smaller area than the area of said head portions, substantially as described.

2. The combination in a billiard-cue, of a metal head consisting of a shank, a head thereon divided longitudinally into several normally outward-springing portions, inwardly tapering toward the cue, means for securing the shank fixedly in the end of the cue with the head portions thereof projecting beyond said end, a leather tip, a metal plate secured to the under side of the latter, there being a socket in said plate having tapered sides for receiving said head portions, and means of engagement between the walls of said socket and said head portions consisting of a shoulder on the side of the socket, and a projection on the side of the head portions, substantially as described.

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Witnesses:

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