

L. ABBOTT.
CUE TIP.

(Application filed Sept. 7, 1900.)

(No Model.)



Fig. 1.

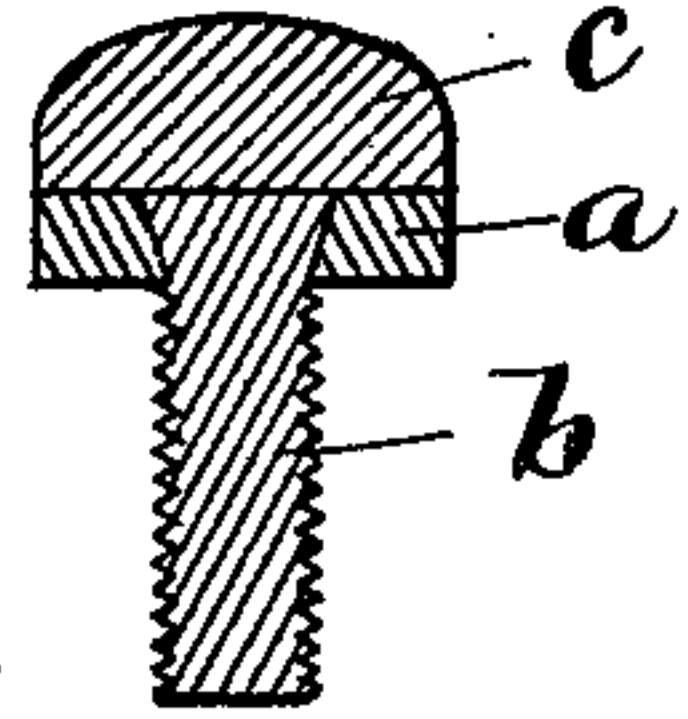


Fig. 2.

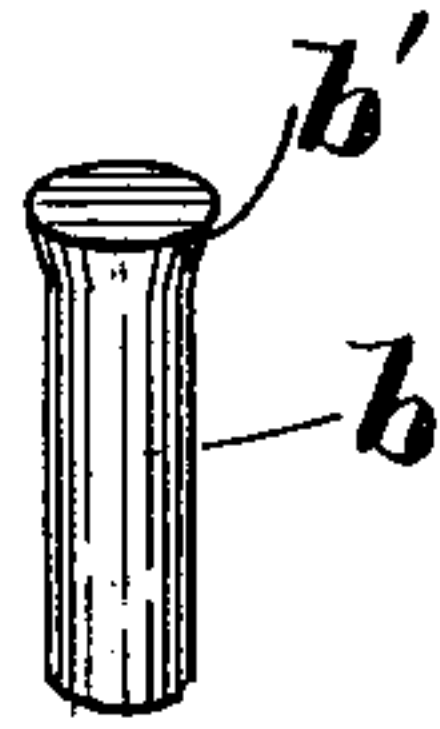


Fig. 3.

Fig. 4.

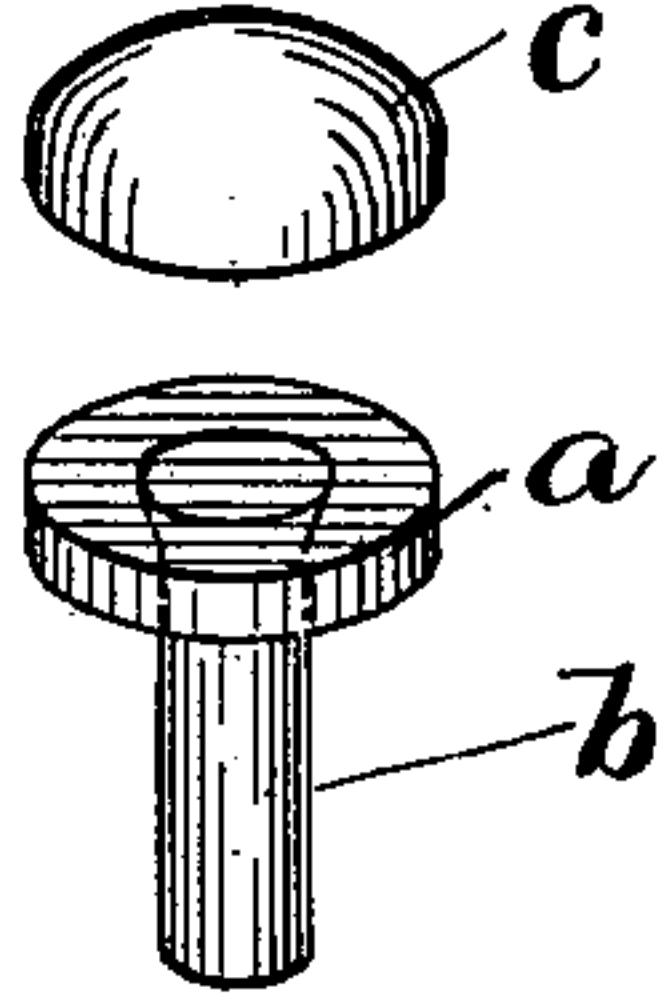


Fig. 5.

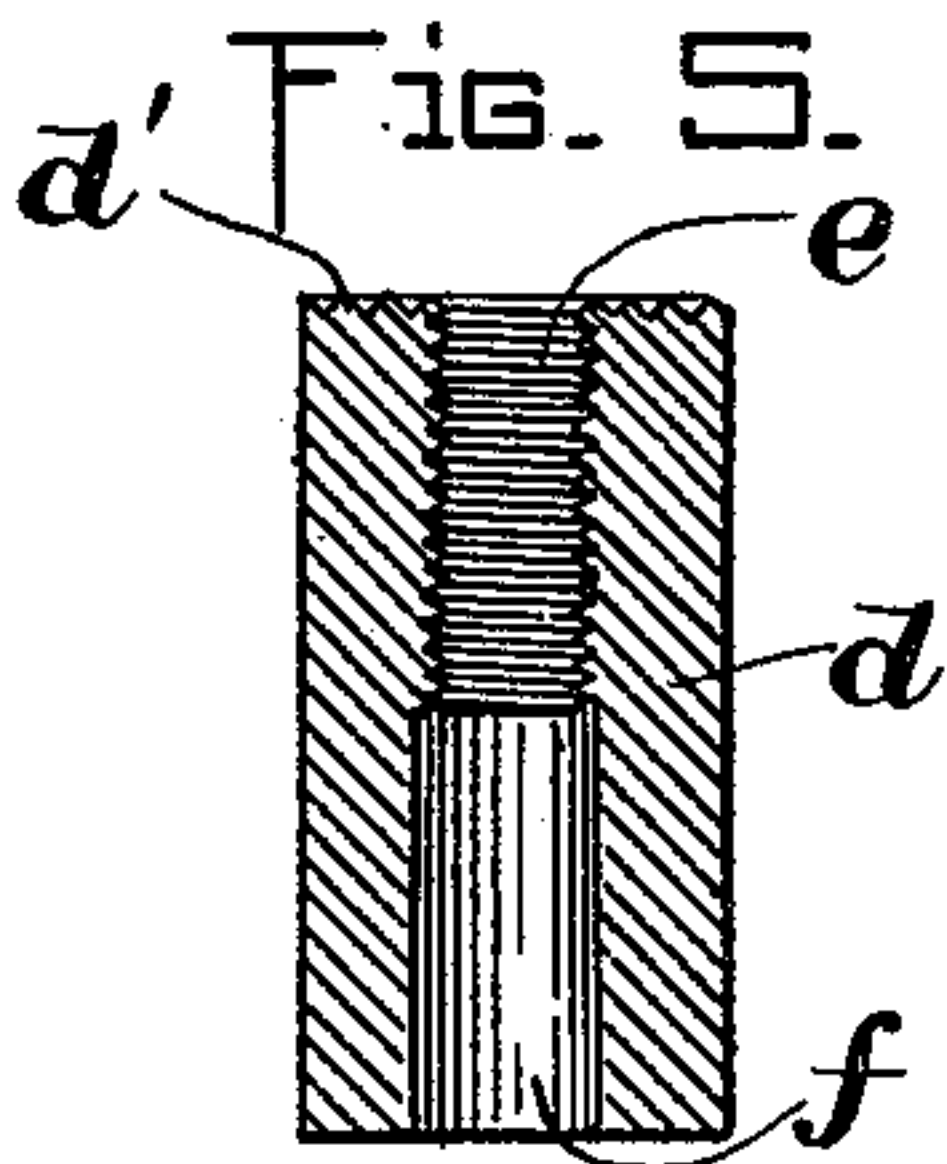


Fig. 6.

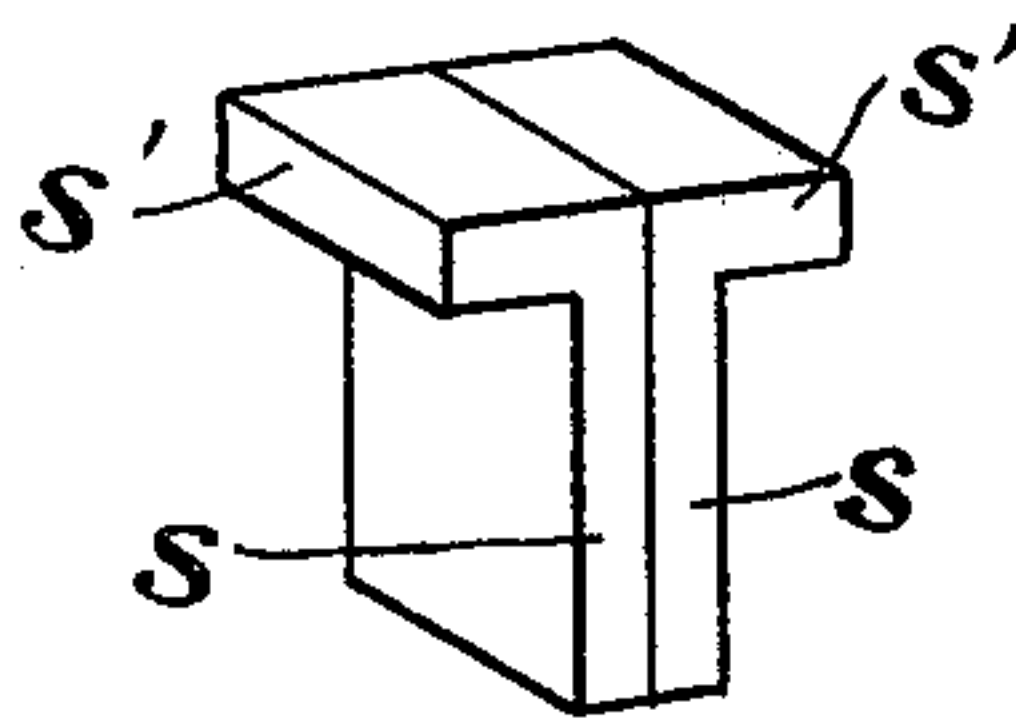


Fig. 7.

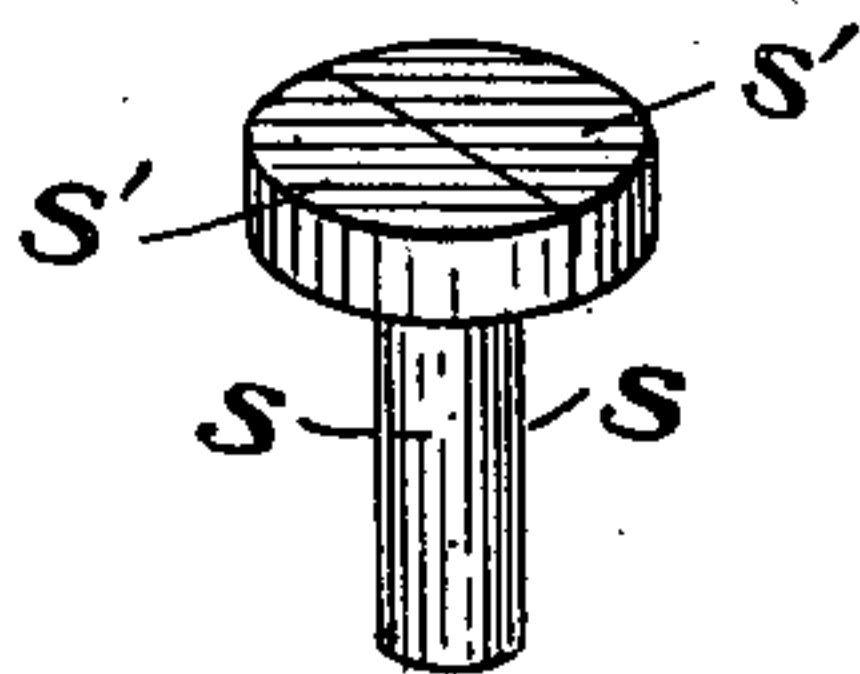


Fig. 8.

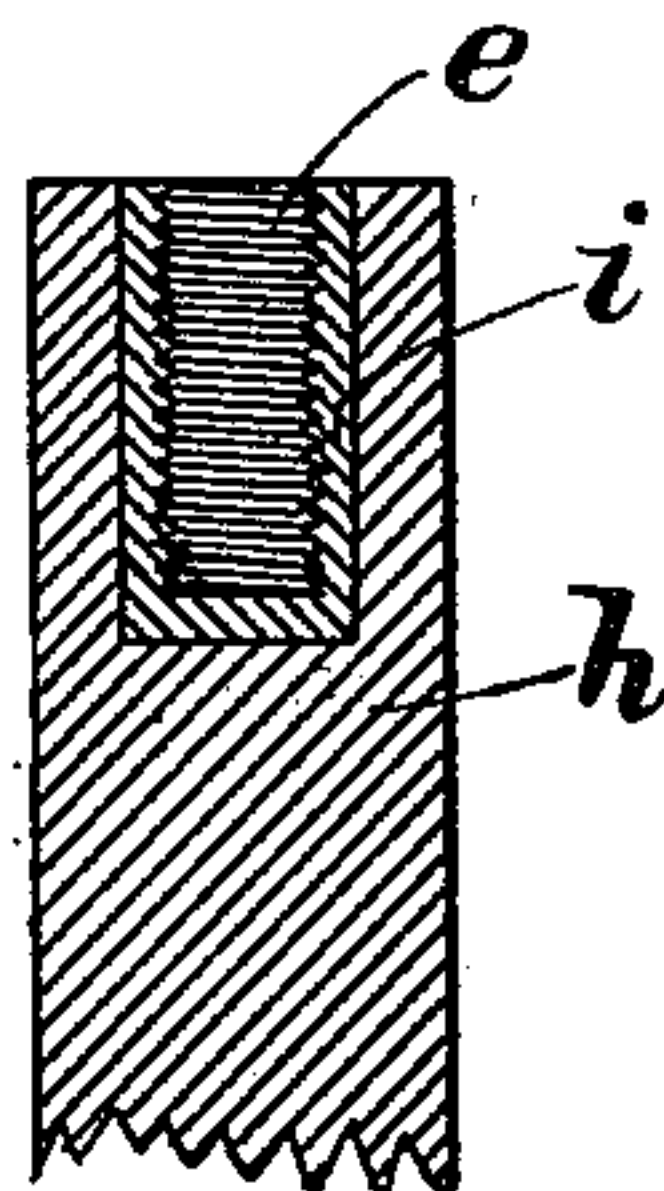


Fig. 9.

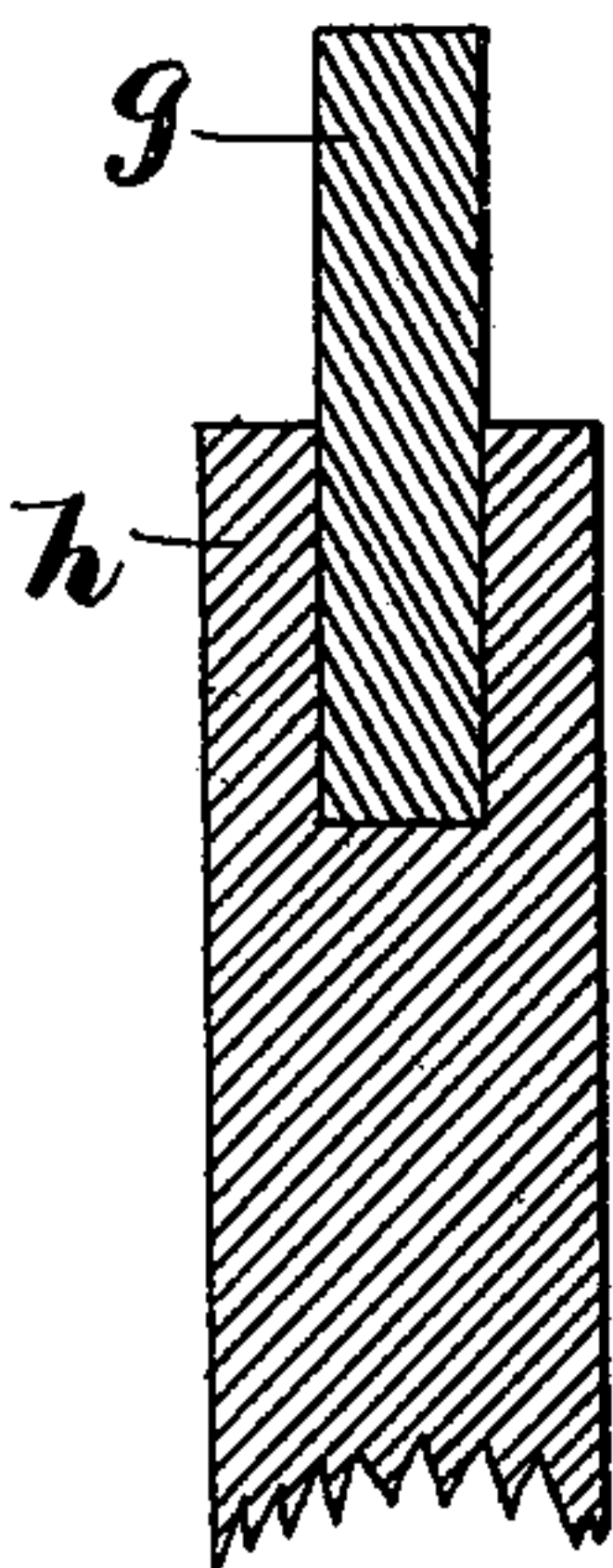


Fig. 10.

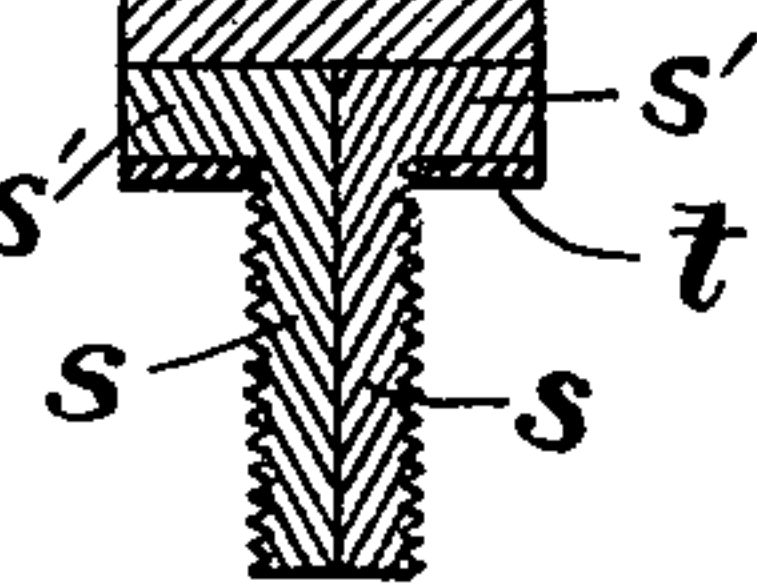


Fig. 11.

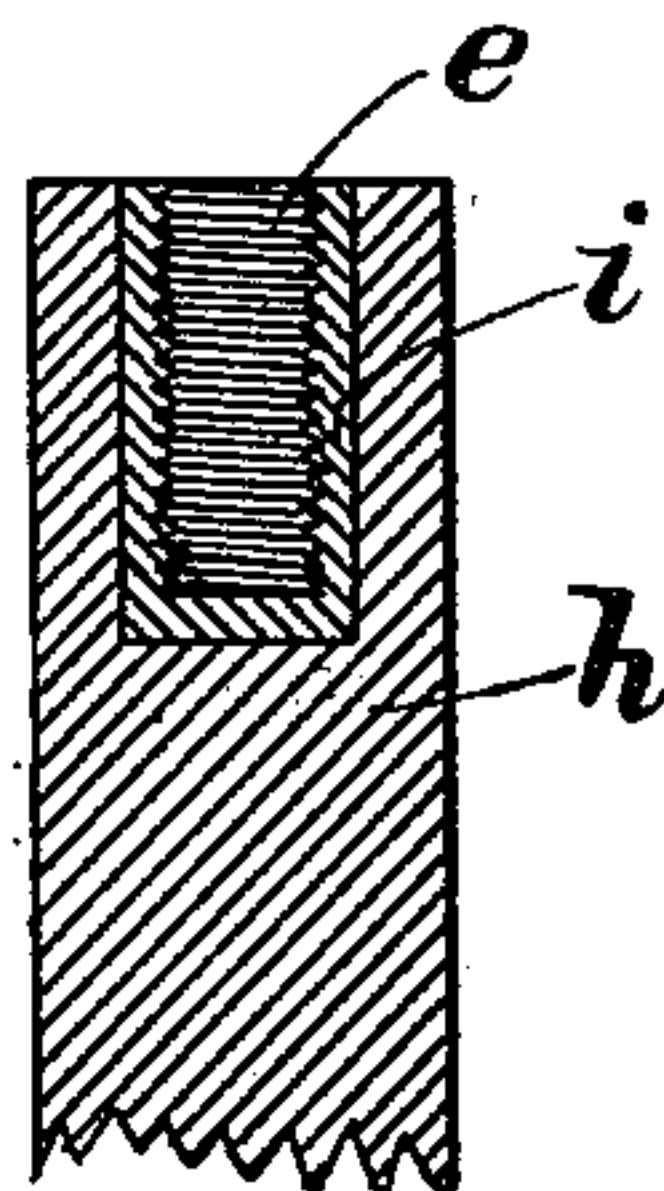


Fig. 12.

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UNITED STATES PATENT OFFICE.

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CUE-TIP.

SPECIFICATION forming part of Letters Patent No. 675,313, dated May 28, 1901.

Application filed September 7, 1900. Serial No. 29,276. (No model.)

To all whom it may concern:

Be it known that I, LEVI ABBOTT, of West Medford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Cue-Tips, of which the following is a specification.

This invention has for its object to provide simple and effective means for securing a cue-tip to the stick or body of a cue; and it consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figures 1 and 2 represent perspective views of the parts herein-after termed the "base-section" and "shank" of my improved tip. Fig. 3 represents a perspective view showing the base-section and shank connected. Fig. 4 represents a perspective view of the tip-section. Fig. 5 represents a sectional view showing the base-section, shank, and tip connected. Fig. 6 represents a sectional view of the ferrule or rigid section that engages the shank. Fig. 7 represents a sectional view of a portion of the cue-stick. Fig. 8 represents a sectional view showing all the parts connected. Figs. 9, 10, and 11 represent a somewhat different construction embodying my invention. Fig. 12 represents a modification relating to the cue-body.

The same reference characters indicate the same parts in all the figures.

In Figs. 1 to 8, inclusive, *a* represents the tip-base, which is a disk of leather or other suitable compressible material, adapted to be firmly united by glue or other cement with the tip-section *c*, hereinafter referred to. The section *a* has flat outer and inner sides and a central orifice *a'*, which is preferably tapered, its diameter being greater at the outer than at the inner side of the section *a*. *b* represents a shank or plug, of leather or other suitable compressible material, adapted also to be firmly secured by glue to the tip-section and also adapted to be indented by the internal screw-thread in the socket *e* of the ferrule or rigid cue-section *d*. Said rigid section *d* is preferably made of rigid fibrous material, such as vulcanized fiber, and is adapted to be attached to a cue stick or body *h*, the section *d* being here shown as provided with

a socket *f*, formed to receive a dowel-pin *g*, affixed to the stick *h*. The shank *b* is normally of somewhat greater diameter than the socket *e*, so that when the shank is inserted and rotated in the socket the periphery of the shank will be indented by the thread of the socket, a screw-thread being thus formed thereon which engages the rigid thread of the socket. The outer end of the shank is preferably tapered at *b'* to fit the taper of the socket *a'*, the tapered portion *b'* forming a head, which holds the base-section firmly against the end of the rigid section *d* when the shank is screwed into the socket *e*. The outer end of the rigid section *d* is preferably corrugated or roughened at *d'*, so that it will indent the inner surface of the base-section *a* and prevent the latter and the plug *b* from being accidentally turned. *c* represents the tip-section, which is made of leather or other suitable material and is glued to the outer surface of the base-section *a* and to the outer end of the plug *b*, the outer surface of the tip-section being suitably formed to strike a ball. It will be seen that the base-section *a* and plug *b* are adapted to be firmly secured to the rigid section *d* and to the tip-section *c*, so that there is no liability of the detachment of the tip-section *c* from the stick.

By means of the glue or cement applied as above mentioned the tip-section *c* locks the base-section *a* and the shank or plug *b* together, so as to prevent any possible rotation of either one of the three parts relatively to another, and the corrugations or roughening *d'* of the section *d* act, through the base-section *a* and the tip-section *c*, to hold the shank *b* from rotation in the threaded socket of the section *d*.

In Figs. 9, 10, and 11 I show a different construction embodying my invention, in which the base-section and shank are made of two leather strips *s s*, cemented together and provided at their outer ends with oppositely-projecting ears *s' s'*, which constitute the base-section, the body portions of the strips constituting the shank. The strips may be originally formed as shown in Fig. 9 and afterward trimmed to the form shown in Fig. 10. The tip-section *c'* is glued to the outer face of the base-section, which is here

shown as of convex form. A washer *t*, Fig. 11, of substantially rigid material, may be applied to the under side of the base-section.

It will be seen that in both forms of my invention above described I use relatively thin pieces of leather and at the same time give the base-section and tip-section a sufficient aggregate thickness to insure the desired yielding or resilient quality, the shank having also suitable thickness to insure the desired strength.

When the tip is made in two layers, one being a tip-section and the other a base-section, in accordance with my invention, the tip is stronger and less liable to spread than a tip made wholly of one piece, because it has two grain sides or portions, each layer having a grain side and a flesh side, the grain side or portion being tougher and less extensible than the flesh side or portion. When the tip is made as shown in Figs. 9, 10, and 11, the grain sides of the pieces *s s* are preferably the inner sides, the two grain sides meeting and forming the central portion of the shank.

In both forms of my invention when the shank is made of leather the fibers of the leather extend lengthwise of the shank, so that two very desirable results are secured, namely: First, although the diameter of the shank is relatively small its tensile strength is sufficient for all practical purposes, and, secondly, the shank may be made of any length that may be desired. It will be observed that the fibers of the "tip" (which term includes both the base-section and the tip-section) extend substantially at right angles with the fibers of the shank.

The rigid section may be a bushing *i*, inserted in a socket in the stick *h*, as shown in Fig. 9.

The tip-section *c* serves to distribute the

force or shock of the blow in such manner that there is no tendency to loosen the relative positions of the base-section *a* and shank *b*, and in both forms of my invention the resilience or elasticity possessed by the material of the shank aids in taking up the shock borne by the tip-section, such elasticity as is possessed by said shank being distributed throughout the greater portion of the tip-section.

I claim—

1. A billiard-cue tip comprising an outer tip-section, a base-section therefor, and a shank-section extending solely from the base-section and of lesser diameter than said base-section, all of said parts being formed of leather and secured and held together by an adhesive between the base and tip sections, the fibers of the leather of which the shank-section is composed extending lengthwise of the shank and the fibers of the tip and base sections extending substantially at right angles with the fibers of the shank.

2. A billiard-cue comprising a ferrule or section of rigid material adapted for attachment to a cue-stick and having a corrugated or roughened outer end, and a screw-threaded socket, a compressible base-section having a compressible shank adapted to be indented by the thread of the socket, and a tip-section cemented to the base-section, the base-section shank and tip-section being locked and held from rotation by the cementing of the tip and base sections and by the roughened outer end of the rigid section indenting the inner surface of the compressible base-section.

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

LEVI ABBOTT.

Witnesses:

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