No. 684,394. Patented Oct. 8, 1901.

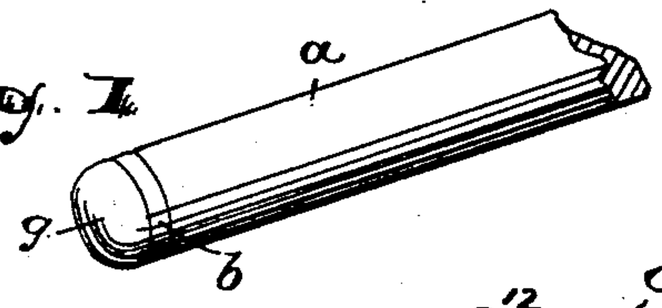
B. E. BEYER.

CUE TIP HOLDER.

(Application filed Apr. 20, 1901.)

(No Model.)

Fig. 1.



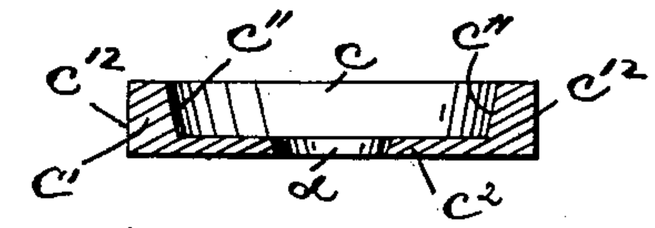


Fig. 4.

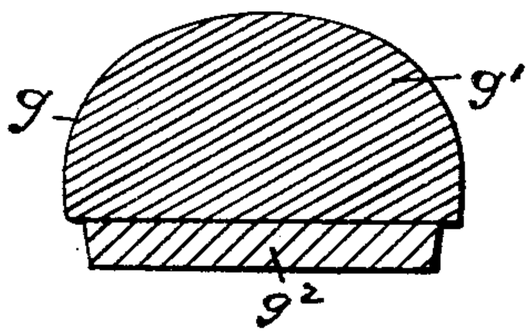


Fig. 2.

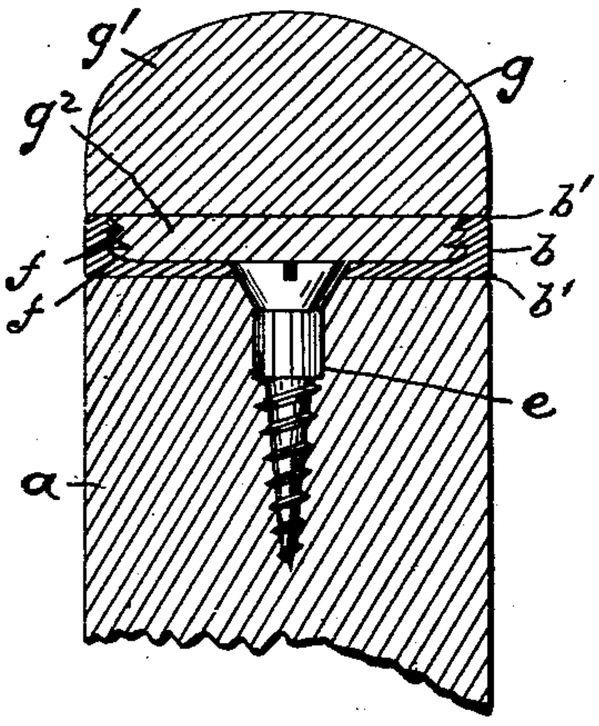


Fig. 5.

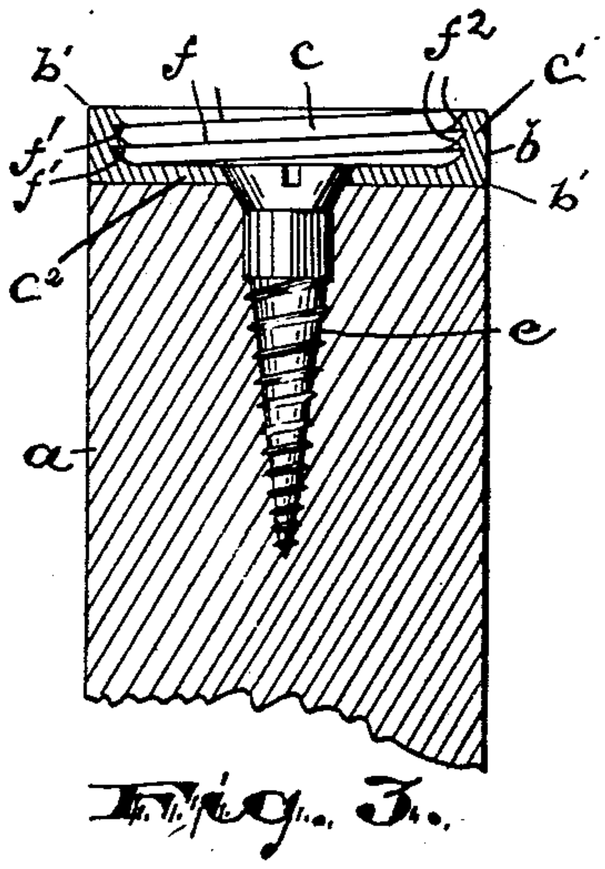


Fig. 3.

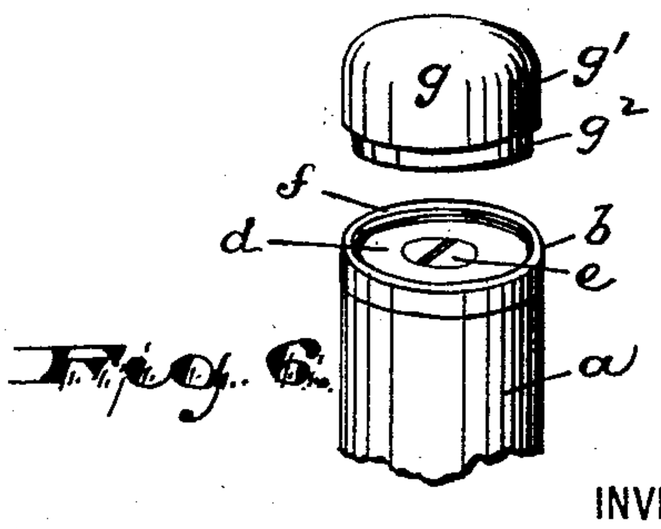


Fig. 6.

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UNITED STATES PATENT OFFICE.

BERTRAND E. BEYER, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-HALF TO JOHN A. SMITH, OF SAME PLACE.

CUE-TIP HOLDER.

SPECIFICATION forming part of Letters Patent No. 684,394, dated October 8, 1901.

Application filed April 20, 1901. Serial No. 56,786. (No model.)

To all whom it may concern:

Be it known that I, BERTRAND E. BEYER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Cue-Tip Holders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to the attachment of tips to billiard-cues and the like; and the objects of the invention are to hold the tip firmly to the cue and yet permit it to be readily detached, to thus enable worn tips to be replaced by new ones without delay or the use of tools, to obtain simplicity of construction and a neat and pleasing appearance, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved cue-tip holder and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several views, Figure 1 is a perspective view of the end of a billiard-cue having its tip held by my improved means. Fig. 2 is a central longitudinal section of a tip before it is applied to a cue, and Fig. 3 is a similar section of the cue provided with my improved holder ready to receive the tip. Fig. 4 is a section of the holder before having threads cut in its inner walls and showing an inclination of said walls. Fig. 5 is a central longitudinal section of the parts assembled, and Fig. 6 shows in perspective view the tip about to be screwed into place.

In said drawings, *a* indicates the rod or stick of a billiard-cue, having its extremity cut squarely off and my improved tip-holder *b* applied thereto. Said holder comprises a thin disk of metal the same diameter as the rod or stick *a* and secured flatwise against the end thereof, the ends of said disk being rounded off very slightly, as at *b'*, so as to prevent any possibility of sharp edges, such as would injure the billiard-table or its cloth in using the cue.

From one end the holder is recessed longitudinally inward, as at *c*, leaving side walls *c'* and a thin bottom or closed end c^2, adapted to seat against the end of the cue stick or rod *a*. Said bottom c^2 has a central countersunk hole *d* to receive the head of a screw *e*, entering the cue-stick, as shown, and fastening the holder *b* firmly thereto, while the head of the screw lies flush with the bottom of the recess *c*.

Upon the interior walls of the recess *c* a screw-thread *f* is then formed, the threads in a sectional view, such as shown in Fig. 5, diminishing in altitude outwardly from the bottom of the recess and each one being sharp-edged and at its side *f*, next the bottom of the recess parallel thereto, the slope being wholly on the opposite side f^2. In actual manufacture this thread is secured by first forming the recess *c* with inwardly-inclined walls c^{11} and then cutting the thread by a suitably-shaped tool moving parallel to the outer wall c^{12} or to the length of the holder.

The tip *g* to be attached to the cue stick or rod *a* is of the usual composition, having a soft top or body part *g'* and a more firm and solid base g^2. This base g^2 I cut away at the edges inwardly beneath the softer upper portion, so that the central portion remaining forms a stem of reduced diameter adapted to enter the cavity *c* of the holder. As said tip is turned with a screw motion to force its reduced base into the holder the interior threads of said holder cut into the periphery of said reduced base, and thus grip the tip with great security. The material of which the base of the tip is made, while quite solid and firm, is nevertheless soft enough so that the screw-threads on the holder can cut their way into it, and, moreover, the fact of the outer portion of said threads being lower enables the groove in the tip to be cut gradually as said tip is screwed on and not to its entire depth at once. When screwed into place,

the tip is held firmly by the peculiarly-shaped screw-threads and cannot be dislodged by use. At the same time it is quickly and easily removed by unscrewing with the fingers when desired. The outer surface of tip-holder and cue-stick are in one straight line when united and there are no projections from a smooth surface. Moreover, the holder is largely concealed and shows only as a narrow ring between the tip and cue-stick.

Obviously my invention can be used in other constructions than billiard-cues wherever it is desired to similarly connect a tip to the end of a body portion.

Having thus described the invention, what I claim as new is—

1. The combination with a cue-stick, of a cue-tip holder secured to the end of the cue-stick flush with the sides of said stick and providing at its outer end portion a surface of reduced diameter having threads thereon which increase in altitude from said outer end toward the stick, and a tip having a surface to engage the said threaded surface of the holder and being of a material into which the threads of the holder will cut their way as the parts are screwed together, the said thread entering near the cue-stick more deeply into the cue-tip than at portions toward the outer end of the holder.

2. The combination with a cue-stick, of a holder secured thereto, said holder being recessed at its outer end and having on its interior walls threads which increase in altitude from the outer end toward the stick, and a tip having a reduced end adapted to screw into said holder and being of material in which the said threads of the holder will cut their way, each successive portion of the thread cutting deeper than preceding portions.

3. The combination with a stick *a*, of a holder *b*, comprising a metal disk laid flatwise against the end of the stick and providing at its outer end portion a surface of reduced diameter having male threads thereon which increase in height or altitude from said outer end toward the stick, a screw passed through said holder longitudinally into the stick, and a tip having a surface corresponding to the said threaded surface of the holder and being of a material in which the said male threads of the holder will cut a corresponding female thread as the parts are screwed together.

4. The herein-described holder for cue-tips and the like, comprising a metal disk adapted to be laid flatwise against the end of a stick, and being perforated to receive a screw or the like passing into said stick, the side or end portion of the disk away from the stick providing a surface of reduced diameter having a male thread cut thereon which thread increases in altitude or height as it approaches the end of the holder adapted to lie next to the stick and has a sharp edge and forms an abrupt shoulder at the side next the stick end of the holder, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 12th day of April, 1901.

BERTRAND E. BEYER.

Witnesses:
CHARLES H. PELL,
C. B. PITNEY.