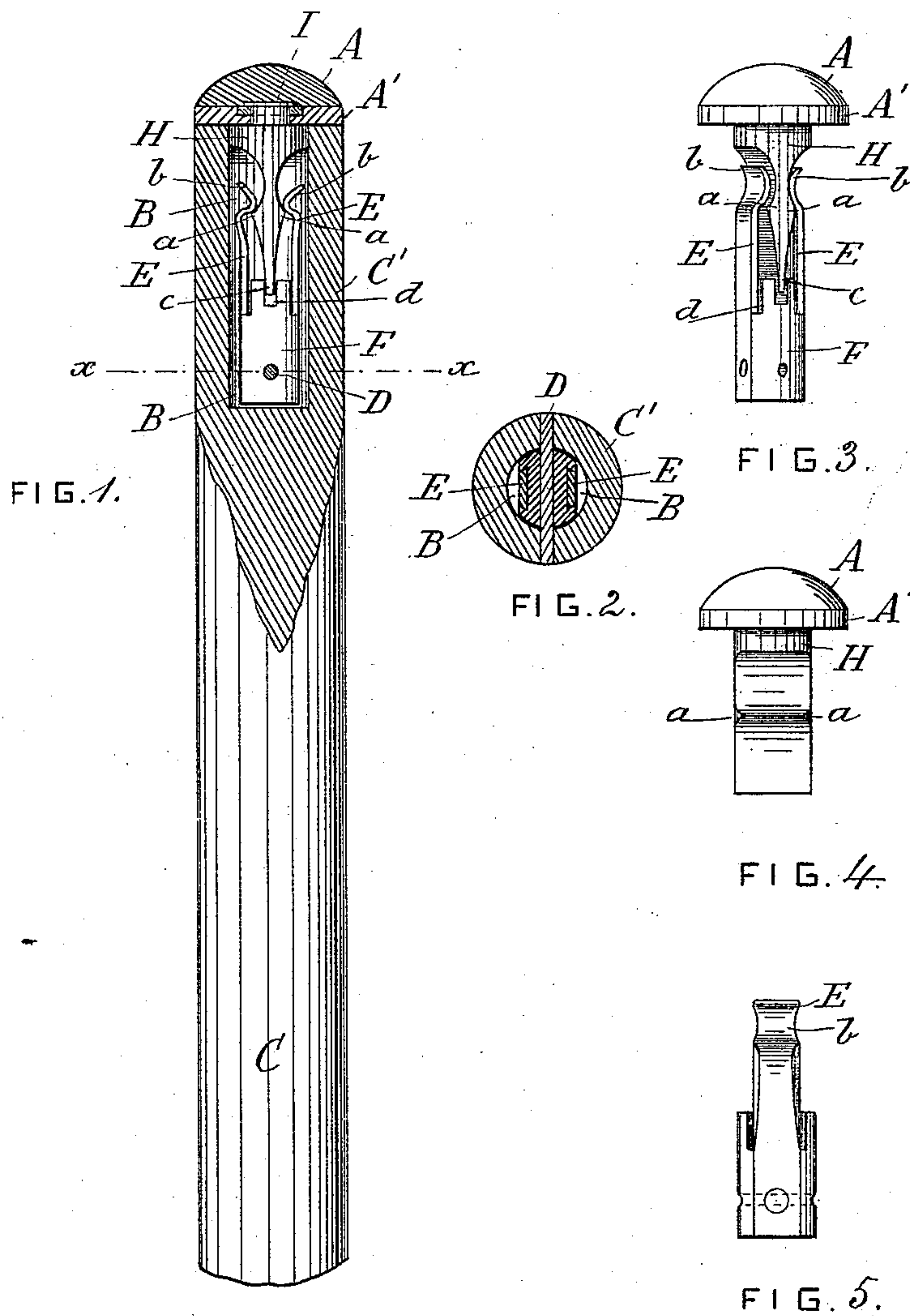


(No Model.)

T. S. MEYER.
TIP OR HEAD FOR BILLIARD CUES.

No. 414,775.

Patented Nov. 12, 1889.



WITNESSES

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TIP OR HEAD FOR BILLIARD-CUES.

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To all whom it may concern:

Be it known that I, THEODORE S. MEYER, of the city, county, and State of New York, have invented a new and useful Improvement in Tips or Heads for Billiard-Cues and Means for Attaching the Same, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional view of the front end of an ordinary billiard-cue, and of the tip or head thereto attached by means of my invention, shown in perspective. Fig. 2 is a cross-section at X X of Fig. 1. Fig. 3 is a perspective view of my said invention separated from the cue and presented at an angle of vision differing from that shown in Fig. 1. Fig. 4 is a side view of my cue-tip or head provided with its transversely-ribbed projection. Fig. 5 is a side view of spring-clutches and accompanying parts.

Similar letters of reference indicate similar parts.

As is well known, it is usual to provide the striking end of billiard-cues with a covering or "tip," so called, usually made of leather. The function of such tips is, among other things, to provide between the cue and the ball a comparatively elastic cushion, of substantially uniform grain and density, capable of being readily and uniformly shaped into the desired contours or curved surfaces and of sufficient porosity to retain to the desired extent the chalk with which such tip is frequently rubbed by the billiard player.

It is well understood that the accuracy of the stroke delivered by the cue depends largely, among other things, upon the exact and firm adjustment and securing of such tip to the cue-body. Such tips have heretofore usually been secured in position by means of glue or other adhesive material interposed between them and the wood of the cue. This means is objectionable, because the condition of such glue or adhesive material is liable to be varied by thermometric and hygrometric variations in the atmosphere, and the tip is liable to become partially or wholly detached at any time, to the inconvenience and frequently to the disfigurement of the billiard-player.

The application, adjustment, and securing

of such tips involves special skill and the inconvenient preparation, application, and subsequent drying of the adhesive material. Again, the restoration of the displaced tip necessitates, in addition to the operations above described, the careful removal of the broken adhesive material. This latter operation is practically impossible to completely perform, because the first application of adhesive material fills up the minute pores of the wood in the cue, and after its first breakage it is practically impossible to remove the glue from said pores, and thus to renew the joint with all its original strength.

The object of my invention is to dispense with the use of adhesive material for uniting the parts referred to, and to provide in lieu thereof a mechanical means of union capable of application by unskilled persons, cheaply and strongly constructed, separable at pleasure, and automatically securing and constantly operating to further secure the parts in correct position relatively to each other.

The form of apparatus which I have devised and which I prefer for attaining the objects of my said invention is illustrated in the drawings.

A A' constitute the tip, composed, as usually preferred, of two portions of leather united by glue or other adhesive material; and I may here say that the use of adhesive material for the purpose of uniting these two parts is in practice found satisfactory, inasmuch as the uniform quality and elasticity of the parts united enables a comparatively firm and permanent union to be effected between them by means of the adhesive material, whereas when such material is applied between the leather of A' and the wood of the cue C the great difference in elasticity and porosity existing between the two materials operates as aforesaid to strain and finally break the adhesive connection.

C is a part of the forward end of an ordinary cue-body, broken away at C', so as to show same in section at the striking end. The striking end of said cue is provided with a socket or excavation B B, within which is permanently secured, by a pin D or equivalent means, a pair of spring-clutches E E, and which in the form of construction illustrated in the drawings are mounted and se-

cured in any well-know way, say to the base F, which is in turn rigidly secured to the cue by pin D, passing through such body and the cue and terminating at exterior surface of latter.

I next secure to the tip A A' the transversely-ribbed projection H, preferably as follows, viz: Before uniting the parts A A', as aforesaid, I perforate A', and through such perforation insert the shank I, which is a part of H, and I retain same in position by means of riveting or securing thereto in any well-known way the flange or nut head, so that same can no longer be withdrawn from A', after which I glue or otherwise secure in any satisfactory way the other part A of the tip, observing to suitably recess or cut its surface, so as to enable it to fit over and closely upon I, with its above-described accompanying parts. It might be secured within the head A A' in any other suitable way without departing from my invention, and it might be so secured preliminarily to uniting it with H, which might be subsequently effected by screwing the parts together or in any other well-known way. The transversely-ribbed projection H is made at that portion thereof nearest the tip A A' of similar cross-section to the chamber B, and so as to fit within the same closely, whereby the tip is secured against transverse movement.

To secure against longitudinal movement of the tip, I provide H with transverse projecting ribs *a a*. The surfaces of H between these projections and the tip A A' are concavely curved and in such relation to the curves *b b*, with which the springs E E are provided, as to afford spaces within which the latter may operate, as hereinafter described, and the lower extremity of H is prolonged, as at *c*, and inserted within a slot *d* in body F, whereby additional firmness is given to the tip.

The springs E E, with their curved extremities *b b*, are so adjusted relatively to H and its ribbed projections *a a* that *b b* will clutch and engage against *a a* and the concave surfaces beyond in such manner as not only to retain the latter in proper position, but also to constantly exert pressure tending to pull or draw H, with its attached tip, more firmly toward the cue.

The operation of my invention is as follows: The cues having been provided with the chamber B, and the body and its accompanying springs having been firmly secured therein, as described, and the tip having been provided with its transversely-ribbed projection H, the tip is approached to the cue and H inserted within the socket B in such position that the wedge-shaped surfaces of its projection *c* shall be inserted between and gradually open the springs E E. The body H is then

still further thrust downward. The transverse rib *a a*, passing between the springs, open latter to their fullest extent, and as the point of greatest resistance is passed by the ribs the springs close upon the concave surfaces following them, and thus secure the tip in place. It will be observed that when the tip has been brought home to its final position the action of the springs not only clutches the projection H, but by reason of the curvatures of the surfaces along the portions clutched constantly exert pressure tending to still further draw downward between them (in the direction, say, of the pin D) the tip with its attached parts. Should it become necessary to remove the tip, this may at any time be easily effected by pulling it sufficiently to overcome the resistance of the springs.

It is manifest that the form and method of fastening together the various portions of my improvement might be varied from those specifically shown in the drawings without departing from my invention, which in its broadest aspect consists in providing separable and automatically-adjustable and united tip and cue in which the retaining parts are clutched together and constantly and automatically drawn into position by springs whose surfaces are so shaped as to produce the result desired by their pressure upon the properly and correspondingly shaped surfaces of that portion of the apparatus upon which said springs operate.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As a means of uniting the tip and body of a cue, the ribbed projection H, secured to tip A A' and provided with projections *a a* and extension *c*, in combination with curved springs E E, secured to body F, which last is secured to cue C and provided with slot *d*, all so adjusted in shape and position relatively to each other that said curved surface of said springs shall clutch said projection H and so act upon the same as to constantly draw together the tip and cue.

2. As a means of drawing and holding together a tip and cue, a projection having curved concavities attached to said tip, in combination with springs attached to said cue and having correspondingly-curved convexities, said concavities and convexities being so shaped and adjusted in relation to each other that the pressure of said springs upon said projection will constantly tend to drive said convexities farther into said concavities, substantially as and for the purposes described.

THEODORE S. MEYER.

Witnesses:

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