(No Model.) 2 Sheets—Sheet 1.

J. N. McINTIRE.

CUE TIP CLAMP.

No. 576,374. Patented Feb. 2, 1897.

Fig. 1,

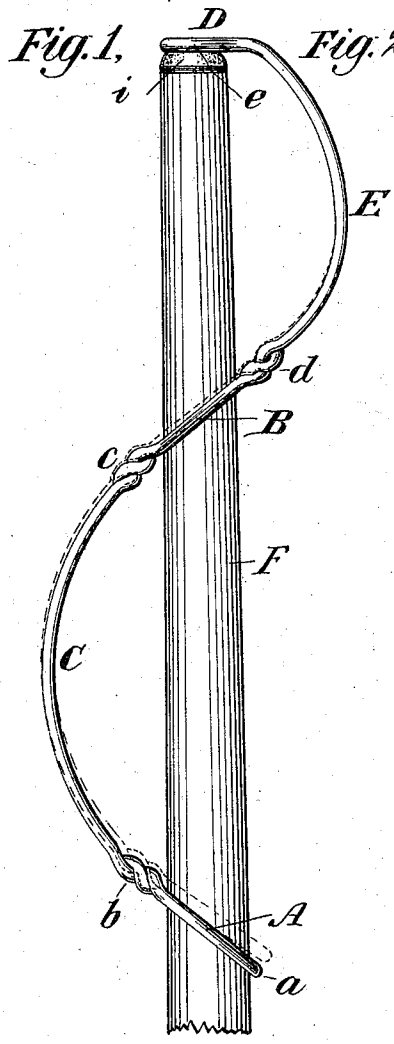


Fig. 2,

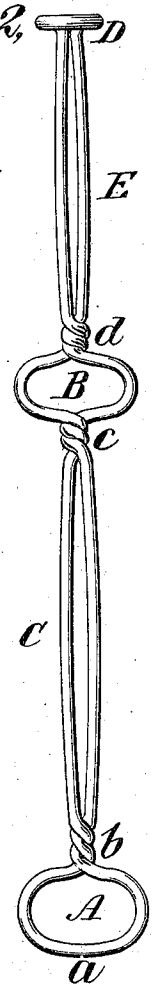


Fig. 4,

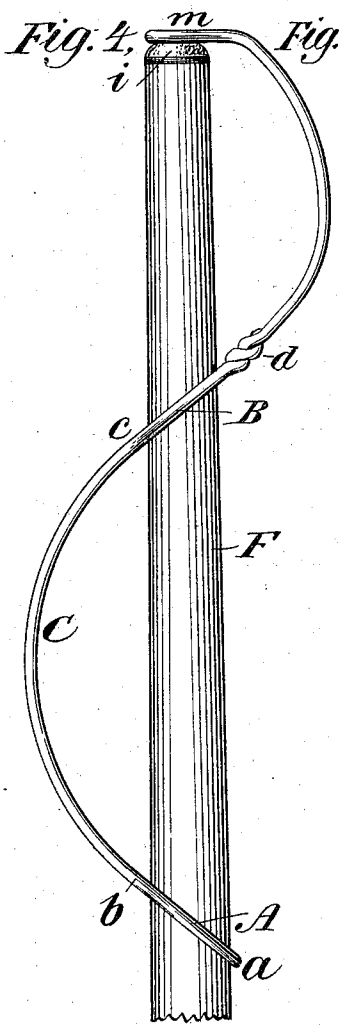


Fig. 5,

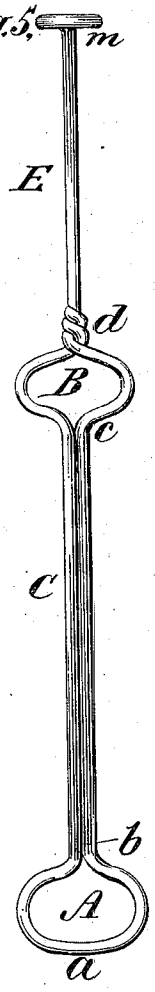
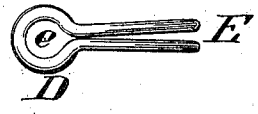


Fig. 3,



WITNESSES:

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M. Rath

INVENTOR

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(No Model.) 2 Sheets—Sheet 2.

J. N. McINTIRE.

CUE TIP CLAMP.

No. 576,374. Patented Feb. 2, 1897.

Fig. 6.

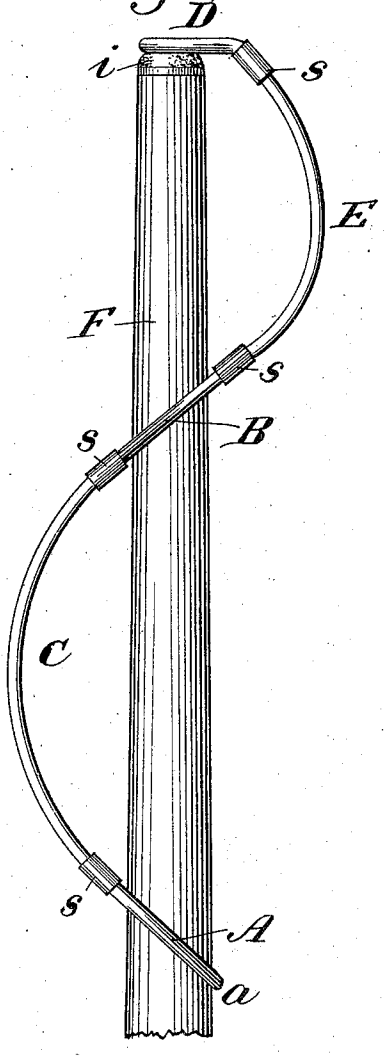
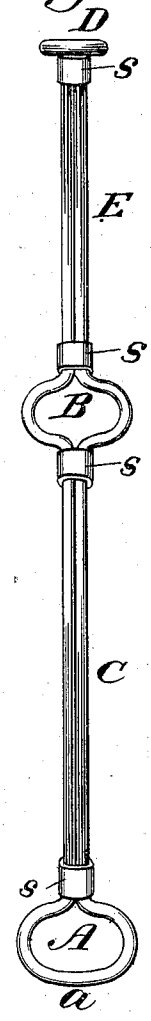


Fig. 7.



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UNITED STATES PATENT OFFICE.

JACOB N. McINTIRE, OF NEW YORK, N. Y., ASSIGNOR TO THE BRUNSWICK-BALKE-COLLENDER COMPANY, OF SAME PLACE.

CUE-TIP CLAMP.

SPECIFICATION forming part of Letters Patent No. 576,374, dated February 2, 1897.

Application filed August 20, 1896. Serial No. 603,294. (No model.)

To all whom it may concern:

Be it known that I, JACOB N. McINTIRE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Cue-Tip Clamps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to devices employed to hold in place on the end of a billiard-cue the freshly-glued leather tip until the glue shall have set, and most commonly known as "cue-clamps." A great variety of such devices has been heretofore used and patented, all of which, however, so far as I know, have comprised a series of separate parts or pieces and have been more or less expensive of manufacture.

I propose to provide for use a cue-clamp which, while it will efficiently serve the purpose of holding the leather tip in place on the end of the cue until the glue or cement between the tip and cue shall have set or hardened, shall be simpler and more economic of manufacture than any device heretofore contrived for this purpose.

To this main end and object my invention consists of a cue-clamp composed of a single part made, preferably, of a single piece of wire adapted by its shape and resiliency to embrace and clasp the body of the cue and to press on and hold in place the freshly-glued-on leather tip, the said clamp operating, when placed in position, to automatically maintain a grip on the cue and its hold on the leather tip, all as will be hereinafter more fully explained and as will be particularly pointed out in the claims of this specification.

To enable those skilled in the art to which my invention relates to make and use cue-clamps embodying the same, I will now proceed to more fully describe my improved construction of clamp, referring by letters to the accompanying drawings, which form part of this specification, and in which I have shown my invention carried into effect in those precise forms of the improved device in which I have so far practiced it, though other forms or modifications may of course be adopted without changing the novel principle of the device shown and hence without departing from my invention.

In the drawings, Figure 1 is an elevation or portion of an ordinary billiard-cue with one of my improved clamps applied thereto and shown as operating to clamp to or securely hold in place on the end of the cue a freshly-glued-on leather tip. In this view the dotted lines indicate the condition into which a portion of the clamp is sprung or bent (by hand pressure) for the purpose of easily removing the clamp when desired. Fig. 2 is an elevation of the clamp removed from the cue and showing it from a different point of view from that in which it is seen at Fig. 1. Fig. 3 is a partial end view of the clamp. Fig. 4 is an elevation similar to Fig. 1, but showing a modification of my invention in which a portion of the clamp is formed of only one strand or ply of wire. Fig. 5 is a side view of the said modified form of clamp detached from the cue. Fig. 6 is an elevation of still another form of the clamp in which it is composed of a single piece of wire bent into the shape seen with the strands secured together at certain localities by sheet-metal clasps. Fig. 7 is another side view of the same.

In all the figures wherever the same part is shown it will be found designated by the same letter.

As shown, my improved cue-tip-clamping device comprises two oval or slightly elliptical eyes or loop-like devices A and B, which are connected by a curved, springy, or resilient portion C, and an end portion D, adapted to press upon the leather tip and connected by a spring arm or portion E to the upper or outer one, B, of the two eyes before mentioned.

As the cue F is usually slightly tapering at that portion to which the clamp has to be applied, it is desirable and preferable that the eye A be made slightly larger than the one lettered B, in order that these two loop-like portions of the clamp will be better adapted to encircle and clasp the stick. These

eyes A and B are made elliptical or oval, with the shorter axis of the elipses slightly greater than the diameters of the cue F at the respective localities at which said eyes embrace the cue and with their longer axis considerably greater, in order that when the spring-arm C be bent in about the condition seen in dotted lines at Fig. 1 the eyes A and B (being brought into planes somewhat less oblique to the axis of the cue) will loosely encircle the stick, and hence may be easily moved lengthwise of the latter, and so that when the bent arm C be released and assume its normal condition these eyes A and B will securely hug or grip the stick F, and thus automatically hold the clamp securely in place endwise on the cue. From this principle of construction it will seem that to easily move the eyes A and B lengthwise of the cue F (either to place the clamp at a given place on the stick or to remove it therefrom) it is only necessary to spring or bend the arm C, so as to make its curvature greater or sharper, thus throwing said eyes into planes less oblique to the axis of the cue, and it will be understood that to do this it is only necessary to take hold of the clamp with the hand at and force toward each other the points *a* and *d* of the respective clamping-eyes A and B. To facilitate this manipulation of the parts by hand, it may be found desirable to provide the lower loop or eye A with a projection, such as shown at Fig. 1, which may be integral and formed by a bend in the wire, as there illustrated. The bent portion or arm E is also resilient like the portion C, and the tip-clamping end portion D of the device may, if deemed expedient, be provided with a permanently-united disk *e*, (see Fig. 3,) though this is not indispensably necessary.

In applying the clamp to the freshly-leathered cue the two eyes A and B are slipped down around the stick, while they are pressed and held by hand in the abnormal condition indicated by the dotted lines at Fig. 1 until the laterally-projecting end portion D of the device shall have been brought into forcible contact with the leather tip *i* by pulling down well on the eye B, so as to pull some of the natural curvature out of the bent spring-arm E, and while thus held under strain the lower eye A is pulled downward (or away from eye B) very slightly, whereupon the two eyes come to a deadlock with the embraced cue F, said eyes gripping the stick sufficiently (by reason of the tendency of the spring-arm C to assume a slightly straighter condition) to permit a continuance of the clamping action of the part D, due to the tendency of spring-arm E to slightly straighten itself.

In the use of the clamp shown and so far described I have found it convenient to hold the eyes A and B sprung toward each other with one hand (after placing the lower one over the cue end) until the clamping-end portion D shall have been pulled down onto the freshly-glued tip *i* and held in place thereon with the fingers of the other hand, and to then, after a slight downward pressure on the eye B, slightly assist the natural tendency of the eye A to descend farther on the stick, due to the spring action of the arm C. Thus applied, as seen at Figs. 1 and 4, the clamp will automatically maintain its grip on the embraced cue at the vicinity of the two eyes A and B, and will in like manner retain its clamping hold or end pressure at D on the leather tip *i*.

In the modification shown at Figs. 4 and 5 the wire of which the clamp is formed, in lieu of having its strands twisted together at *b*, (after the formation of eye A,) as seen at Figs. 1 and 2, has them either soldered or otherwise secured together at this point and then arranged close together thence to the point *c*, where they are again soldered or otherwise united permanently, the end of one strand being twisted around the body of the other at *d*, (after the formation of the loop or eye B,) such other strand serving alone for the formation of the spring-arm E and having its end formed into the tip-clamping portion *m* of the device, all as clearly shown at said Figs. 4 and 5.

In practice I have found it desirable in carrying out my invention in this form to have the wire of a little larger gage, since thereby the single-strand spring-arm E is more reliable or efficient in action. In any and all forms of the device, however, the size of the wire used, (if the clamp be made of wire,) while it should be such as will not be liable to bruise the cue, will depend some on the degree of stiffness and spring of the stock used.

In the modification illustrated at Figs. 6 and 7 the clamp is composed of wire and made so that both spring-arms C and E are two-ply, the plies being secured together at the four points 1 2 3 4 by metallic clasps *s*, upset or struck onto the wires, as shown.

Of course the clamp might be made of metal in some other form than that of wire, or it might be made of some non-metallic material, and although I prefer to have the portion E made resilient and to operate in the manner I have explained to cause the leather-clamping portion D of the contrivance to act with an automatic yielding pressure on the tip *i* this portion E might be made rigid or inactive (like the body portion of the ordinary cast-metal cue-clamps now in general use) without departing from the main and most important feature of my invention, which lies in the idea of having the cue-embracing portions of the clamp made to automatically grip the cue, and thus operate to securely hold in place the tip-clamping portion of the device after said clamping portion shall have been forced by hand down onto the freshly-attached leather tip. I therefore wish it to be understood that, while I prefer to make the clamp of spring-wire and to have it embody all the

novel characteristic structural features I have shown and described, the generic quality of my invention may be used with great advantage without following in other respects the constructions I have shown.

What I claim as new, and desire to secure by Letters Patent, is—

1. A billiard-cue-tip clamp, composed of a series of cue-encircling loops, or eyes; a device connecting them which operates automatically to make them grip the cue, or stick, as specified; and a tip-clamping device, permanently connected to said series of eyes; all substantially as and for the purpose set forth.

2. A cue-tip clamp, composed of two cue-embracing eyes, A and B, connected by a device C, which operates to cause said eyes to grip the cue, as specified; and a tip-clamping device D, which is connected to the said eyes by means of a spring-arm E; as and for the purpose set forth.

3. A cue-tip clamp composed of a single part, one portion of which is adapted to automatically grip the body of the cue latterly, irrespective as to whether the other part be placed in an operative position relatively to the cue; and the other part of which, when placed in a proper position relatively to the cue, operates automatically to press down and hold the leather tip against the end of the cue; all substantially as hereinbefore set forth.

In witness whereof I have hereunto set my hand this 5th day of August, 1896.

J. N. McINTIRE.

In presence of—
M. RATH,
LEWIS F. SILVA.