Oct. 23, 1928. 1,688,911

R. B. WOLPERT

BILLIARD CUE

Filed April 22, 1927

Fig 1

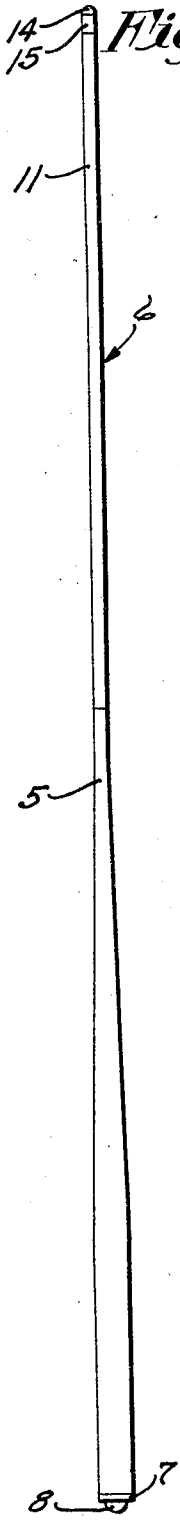


Fig. 2

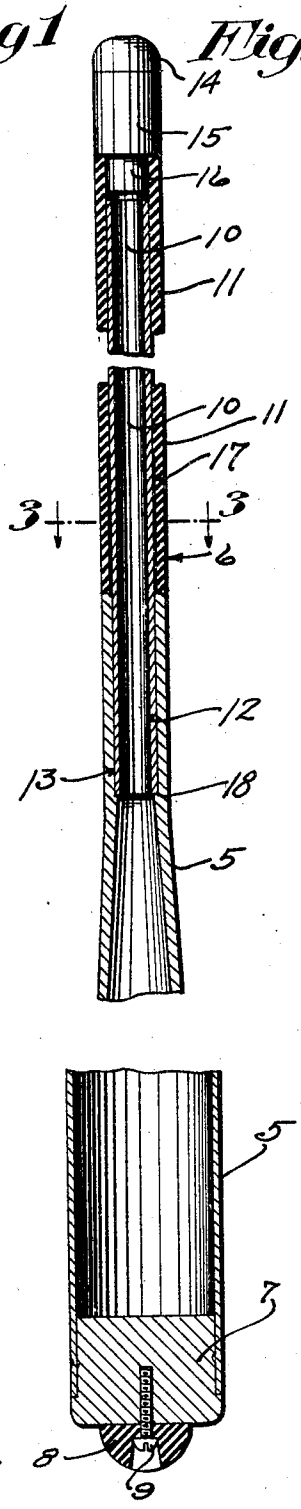


Fig. 3

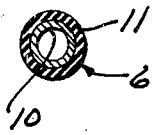
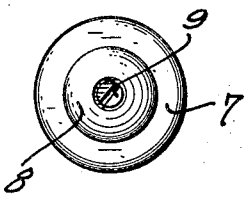


Fig. 4



Inventor
Robert B. Wolpert
By his Attorneys
Merchant and Kiggore

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UNITED STATES PATENT OFFICE.

ROBERT B. WOLPERT, OF MINNEAPOLIS, MINNESOTA.

BILLIARD CUE.

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My present invention provides a billiard cue having all of the desirable features and free from the defects of a wooden billiard cue, and it also overcomes certain objections to a metallic billiard cue. A wooden billiard cue, as is well known, will warp and a warped billiard cue is not fit for use by any one and cannot be used with good results. Moreover, wooden billiard cues cannot be cheaply made for the reason that the wood must be of the best character, well seasoned, and usually built up in sections either of the same kind or of different kinds of wood to prevent warping and for ornamental purposes. Metal billiard cues are objectionable for the reason that they stain the players' hands and stick or drag during playing action.

The invention provides a metallic billiard cue that will not warp and, if sprung, will resume its original shape when released. Said invention further provides a covering or casing, for the outer section of the billiard cue, of a material that will not stain the players' hands and that will freely slide therein, and not stick or drag, and to the touch has the same feeling as wood.

To the above end, generally stated, the invention consists of the novel construction and arrangement of parts hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is an elevation of the improved billiard cue;

Fig. 2 is a view principally in section taken longitudinally through the billiard cue;

Fig. 3 is a transverse section taken on the line 3—3 of Fig. 2; and

Fig. 4 is an end view of the butt of the cue.

The body of the billiard cue is tubular and comprises, as shown, two sections 5 and 6 separably connected by a joint, as will presently appear. The body section 5 is formed from a single metallic tube swaged to shape, and has an outer end portion that is of a constant and relatively large diameter, a short inner end portion of a constant and relatively small diameter, and an intermediate portion that is tapered from said outer end portion to said inner end portion. Due to the swaging of the body section 5, the thickness of the metal in the intermediate portion thereof progressively increases as the diameter thereof decreases, and the thickness of the metal in the inner end portion of the body section 5 is greater than that of the metal in the outer end portion of said section.

The open butt end of the body section 5 is closed by a shouldered metal plug 7, to the outer face of which a rubber bumper 8 is secured by a screw 9. The body section 5 is preferably finished with baked enamel and, of course, the bumper 8 is applied after this finish is completed.

The body section 6 comprises a tubular resilient metal core 10 having a constant diameter throughout its entire length, and to which core is applied a non-metallic casing 11 of fiber or other suitable material. The body sections 5 and 6 are detachably connected by a joint comprising a cylindrical shank 12 and a socket 13 in which said shank is frictionally held. Said shank 12 is formed by extending the core 10 outward of the casing 11 and the socket 13 is formed by the reduced inner end portion of the body section 5.

A billiard cue tip 14, such as can be found on the market, is attached to a cylindrical base 15 of ivory or other suitable material which abuts the outer end of the casing 11 and is rigidly secured thereto by a stud 16 formed with said base and tightly forced into the casing 11. The exterior diameter of the casing 11 is the same as that of the abutting end of the body section 5, and the cue base 15 is of the same diameter as the external diameter of said casing.

It will be noted that the outer end of the core 10 terminates short of the outer end of the casing 11 and the inner end of said casing directly engages the body section 5. The casing 11 is frictionally held on the core 10, except at 17 where the same is glued thereto, as indicated by heavy black lines. By rigidly securing only the inner end portion of the casing 11 to the core 10, said core is free to expand and contract without affecting the casing 11 mounted thereon. The space between the core 10 and plug 16 permits expanding and contracting movements of the core without coming in contact with the stud 16.

By changing the weight of the plug 7 or by

pouring solder in the outer end of the core 10, the balance of the billiard cue may be varied.

The socket 13 is bored so as to form a tight fit with the shank 12. This boring of the socket 13 leaves an internal shoulder 18 which the shank 12 engages as a stop.

What I claim is:

1. A sectional billiard cue, one section of which has a tubular resilient metallic core of a constant diameter, and a non-metallic casing for the core of a constant diameter, the inner end portion of the core being extended outward of the casing to afford a shank fitted into a socket in the other section of the billiard cue.

2. A sectional billiard cue, one section of which has a tubular metallic core, a non-metallic casing for the core, the inner end portion of the core being extended outward of the casing to afford a shank fitted into a socket in the outer section of the billiard cue, the outer end portion of the casing being extended outward of the outer end of core, and a tip base having a reduced stud fitted into the outer end of the casing.

3. The structure defined in claim 2 in which said tip base has engagement with the outer end of the casing with its stud spaced from the outer end of the core.

4. The structure defined in claim 2 in which said tip base has engagement with the outer end of the casing with its stud spaced from the outer end of the core, the inner end of the casing having engagement with the other section of the billiard cue.

5. The structure defined in claim 2 in which said tip base has engagement with the outer end of the casing with its stud spaced from the outer end of the core, the inner end of the casing having engagement with the other section of the billiard cue, said casing being frictionally held on its core, except at its inner end portion where it is glued to said core.

In testimony whereof I affix my signature.

ROBERT B. WOLPERT.