March 12, 1929. H. G. BARRETT 1,705,353

BILLIARD CUE

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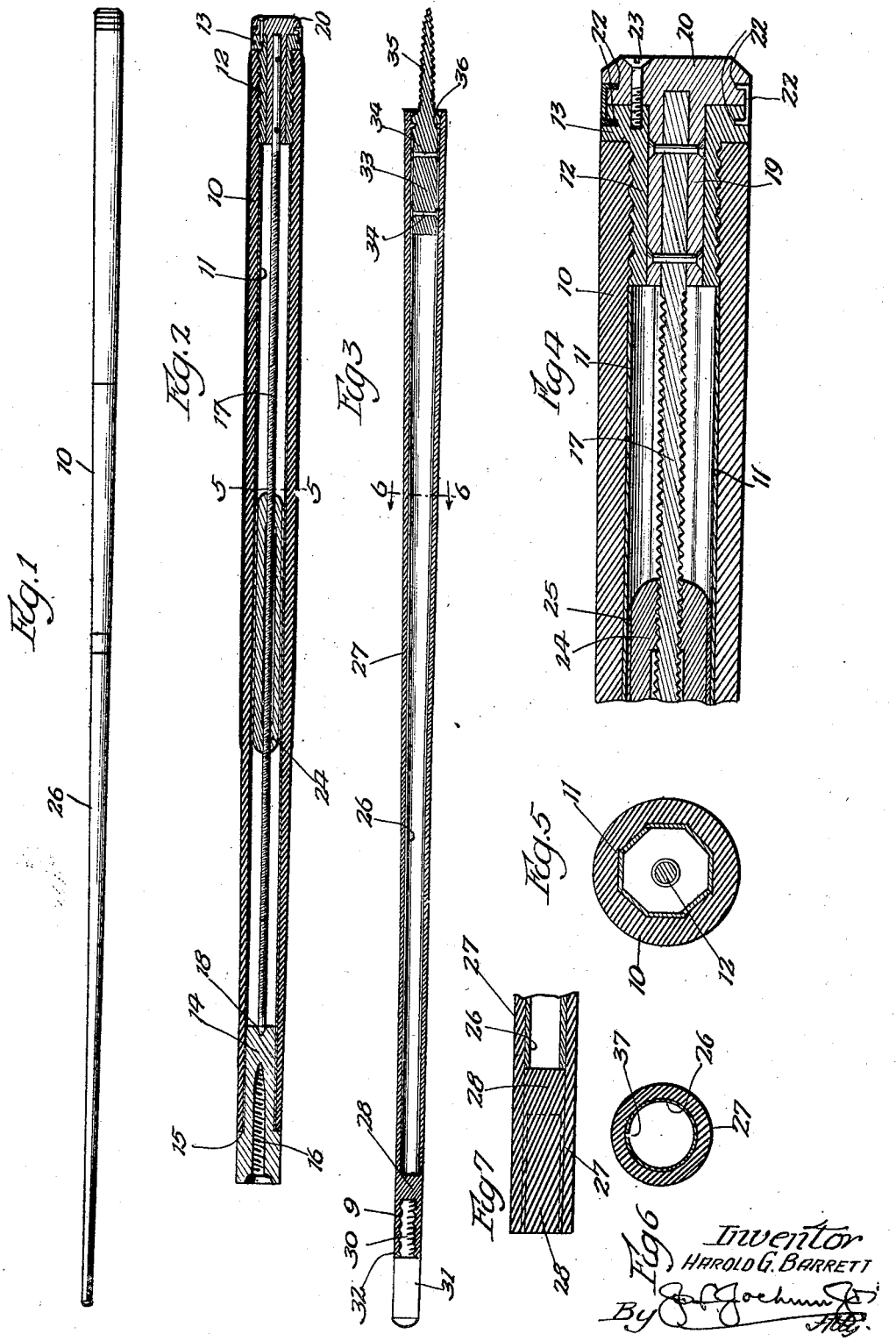

Patented Mar. 12, 1929. 1,705,353

UNITED STATES PATENT OFFICE.

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BILLIARD CUE.

Application filed September 3, 1925. Serial No. 54,231.

This invention relates to improvements in cues particularly adapted for use in playing billiards and pool and one of the objects of the same is to provide an improved cue so constructed that all cues may be manufactured of the same initial weight and in which cue an adjustable weight is arranged so that the balance in the cue may be varied at will by adjusting the weight in a direction lengthwise of the cue, the weight of the cue being determined by the size of the balance weight, thereby reducing the cost of manufacture and obviating the necessity of producing a great variety of cues varying in weights and balances.

A further object is to provide an improved cue construction having incorporated therein a hollow metallic reinforcing core for maintaining the shaft of the cue straight and thereby overcoming the loss not only to the manufacturer and merchants but also to the user of the cue, which ordinarily results by reason of the cue shaft becoming warped or distorted by reason of the cue being subjected to heat and moisture.

A further object is to provide an improved cue shaft constructed of a composition of matter and reinforced by a hollow metallic reinforcing core and which shaft is separate from the butt end of the cue and adapted to be detachably secured to any form or construction of cue butt.

A further object is to provide in a billiard cue an adjustable weight by means of which the balance in the cue may be varied at will and from the outside of the cue without necessitating the dismantling of any of the parts of the cue.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and as shown in the accompanying drawing illustrating this invention, and in which drawing:

Figure 1 is a side elevation of a cue constructed in accordance with the principles of this invention.

Figure 2 is a horizontal sectional view of the butt end of the cue.

Figure 3 is a longitudinal sectional view of the shaft of the cue.

Figure 4 is an enlarged detailed longitudinal sectional view of one end of the butt of the cue.

Figure 5 is a sectional view on line 5—5 Figure 2.

Figure 6 is a sectional view on line 6—6 Figure 3.

Figure 7 is a detail longitudinal sectional view of the tip end of the cue shaft.

In carrying this invention into operation the casing or shell of the shaft may be constructed of a composition of matter which may be a nitro-cellulose composition known as pyroxyline; a phenolic condensation product known as "bakelite"; or any other composition of non-metallic material suitable for the purpose.

The butt end 10 of the cue is hollow and may if desired be constructed of wood, and is provided therein with a snugly fitting hollow metallic reinforcing core 11, and one end of the core terminates adjacent the end of the casing. Into the other end of the butt a plug 12 projects and which plug is provided with a circumferential flange 13 forming a head which rests against the end of the casing. The plug 12 is provided with an opening extending therethrough and the plug is secured in position in any suitable manner such as by means of threads. The inner end of the plug abuts the adjacent extremity of the core 11.

At the other end of the butt is arranged a member 14 which abuts the end of the casing and the core and is provided with a reduced portion to form a shoulder 15, the reduced portion of the member telescoping with the core 11 so that the shoulder 15 will abut the adjacent extremities of the casing and the core.

This member may be secured in position in any suitable manner and is provided with a threaded opening 16 opening through the outer end of the member.

Disposed within and extending lengthwise of the core and for substantially the entire length thereof is a threaded shaft 17 of an external diameter considerably less than the internal diameter of the case, one end of the shaft being journaled in the member 14 as at 18, and the other end of the shaft projects into and is secured to a rotatable member 19, the latter being provided with a head 20 which abuts the end of the butt 10 and has a bearing against the head 13 of the member 12.

A portion of the member 19 extends into

and is rotatable within the plug 12 which latter forms a bearing therefor so that the member 19 may be freely rotated with respect to the butt end of the cue and with it the shaft 17.

A band 21 may be provided for fastening the elements 19 and 13 against separation and at the same time permit the member 19 to be rotated.

To that end the band 21 may be provided with flanges 22 which extend into recesses respectively in the head 20 and the flange 13. A fastening device 23 such as a screw or the like may be provided for holding the member 19 against rotation.

Arranged within the core 11 is a weight 24 of any suitable size and construction and is preferably provided with a resilient outer face 25, such as rubber or the like, to prevent rattling by engagement thereof with the core and for assisting in maintaining it in position.

The shaft 17 passes through the weight and has threaded engagement therewith, and the core 11, as well as the interior of the butt are preferably angular in cross section, the weight having a similar contour so that when the shaft 17 is rotated the weight will be held against rotation, with the result that the weight will be adjusted longitudinally of the shaft 17 and within the core 11.

It will be noted that by removing the plug 12 and member 19 the shaft 17 and weight 24 may be withdrawn through the end of the butt.

The shaft of the cue is separate from the butt and embodies a hollow tapering metallic core 26 which is inserted into a tubular casing 27 preferably constructed of a suitable material which when subjected to a predetermined degree of heat will become pliable to permit the ready insertion of the core, the casing being slightly expanded by the core, so that when the temperature of the casing is reduced it will contract and shrink upon the core.

Into the end of the shaft thus formed is inserted a plug 28 of suitable material which is secured therein in any suitable manner. The end of the casing 27 extends for a considerable distance beyond the adjacent extremity of the core so that the plug 28 when inserted therein, will abut the end of the core and will preferably be flush with the outer end of the casing.

A threaded recess 29 opens through the outer end of the plug 28 and is adapted to receive a threaded portion 30 of a cue tip socket 31 and which portion is formed by reducing the extremity of the socket to form a shoulder 32 which abuts the end of the socket member 31 and the casing 26 so that the impact caused when the cue hits the ball will be directed against the casing and not against the metallic reinforcing core.

In the other end of the core 26 is inserted a member 33 which is secured in any suitable manner such as by means of fastening devices 34, one extremity of the member projecting beyond the core and casing and being formed into a screw like portion 35 adapted to be screwed into the opening 16 in the end of the butt portion 10 for connecting them together.

A portion of the member 33 beyond the core 26 may be provided with a groove or recess 36 into which a portion of the casing 27 projects for assisting in preventing relative longitudinal displacement of the core 26 and casing 27.

The core 26 is preferably split longitudinally thereof as at 37 beyond the member 33 so that the core will possess the necessary elasticity or resiliency to assist in causing the casing and core to firmly grip each other.

When the core 26 is inserted into the casing 27 the core will be slightly compressed so that there will always be a natural tendency of the core to expand within the casing.

With this improved construction a cue of extreme lightness and maximum strength will be produced and will possess the necessary elasticity thereby rendering it possible to initially produce all cues of the same size and weight, the additional weight for the various cues being obtained by the addition of a weight concealed within the cue.

The weight is adjustable from the exterior of the cue so as to vary the position of the weight longitudinally of the cue to vary the balance in the cue to meet the requirements of the individual user.

This will result in a saving to the manufacturer in that the necessity of carrying a great many and variety of cues in stock will be avoided and the loss to the merchant as well as to the user, by reason of the warping of the cue, will be avoided.

While the preferred form of the invention has been herein described and shown, it is to be understood that various changes may be made in the details of construction and in the combination and arrangement of the several parts, within the scope of the claims, without departing from the spirit of this invention.

What is claimed as new is:

1. A billiard cue embodying a butt end, said end being hollow, a tubular metallic reinforcing core therein, a plug removably seated in one end of said butt and having an opening therethrough, a portion of the plug abutting one extremity of said butt end, a plug in the other end of said butt, a portion of the last said plug abutting the extremity of said butt, the ends of the said core respectively abutting said plugs, a cap on one end of the said butt and projecting into and rotatable in the first said plug, a shaft within the core, one extremity of the shaft being journaled in one of said plugs, the other end of the shaft being connected with said cap, and a weight carried by and movable longitudinally of the shaft.

2. A billiard cue embodying a butt end, said end being hollow, a tubular metallic reinforcing core therein, a plug removably seated in

one end of said butt and having an opening therethrough, a portion of the plug abutting one extremity of said butt end, a plug in the other end of said butt, a portion of the last said plug abutting the extremity of said butt, the ends of the said core respectively abutting said plugs, a cap on one end of the said butt and projecting into and rotatable in the first said plug, a shaft within the core, one extremity of the shaft being journaled in one of said plugs, the other end of the shaft being connected with said cap, a weight carried by and movable longitudinally of the shaft, a portion of the said cap abutting the end of the adjacent plug, and means for securing the last said plug and cap together to prevent rotation of the said shaft.

3. A billiard cue embodying a butt end, said end being hollow, a tubular metallic reinforcing core therein, a plug removably seated in one of said butt and having an opening therethrough, a portion of the plug abutting one extremity of said butt end, a plug in the other end of said butt, a portion of the last said plug abutting the extremity of said butt, the ends of the said core respectively abutting said plugs, a cap on one end of the said butt and projecting into and rotatable in the first said plug, a shaft within the core, one extremity of the shaft being journaled in one of said plugs, the other end of the shaft being connected with said cap, a weight carried by and movable longitudinally of the shaft, a shaft section for the cue, and interengaging means between one end of the shaft section and the second recited plug for detachably securing the shaft and butt sections of the cue together.

4. A billiard cue including a butt end, said end being hollow, a weight within said end, means accessible from the exterior of the said butt for adjusting the weight lengthwise thereof to vary the balance in the cue, a separate shaft section for the cue, a hollow resilient metallic reinforcing core within the said shaft section, and means for detachably securing the said shaft and butt end sections together.

In testimony whereof I have signed my name to this specification on this 31st day of August, A. D. 1925.

HAROLD G. BARRETT.