

J. E. GAME.

Billiard-Table Cushions.

No. 142,435.

Patented September 2, 1873.

FIG. 1.

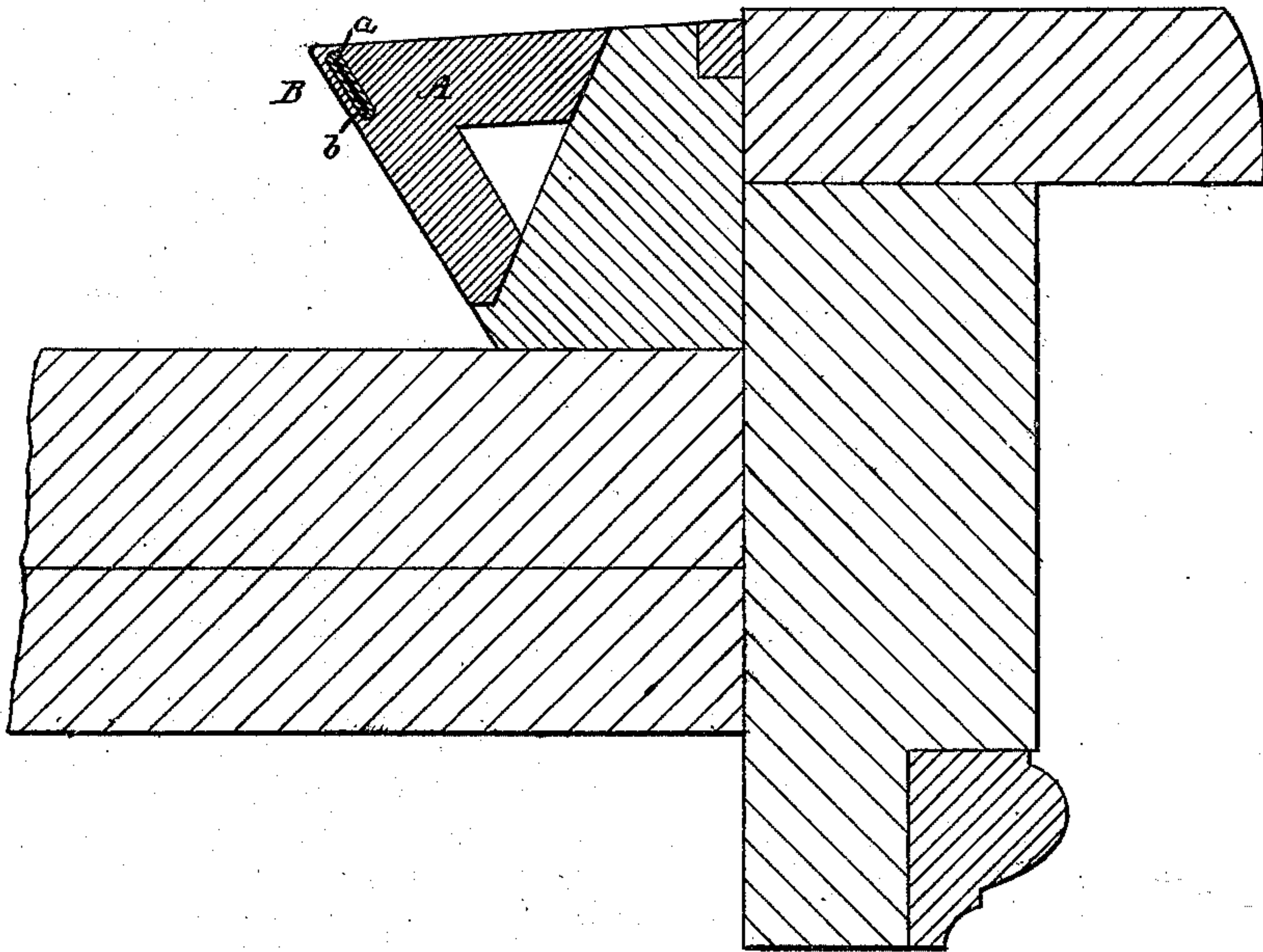


FIG. 2.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

JOHN E. CAME, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN BILLIARD-TABLE CUSHIONS.

Specification forming part of Letters Patent No. **142,435**, dated September 2, 1873; application filed May 13, 1873.

*To all whom it may concern:*

Be it known that I, JOHN E. CAME, of Boston, Suffolk county, State of Massachusetts, have invented an Improvement in Billiard-Cushions, of which the following is a specification:

The main object of this invention, as of many other prior inventions heretofore patented, is to construct the cushion of billiard-tables so as to prevent any substantial or practical embedment of the balls therein, and, at the same time, not detract materially from its necessary properties of reaction under the impact of the balls, thus, as is well known, insuring a more accurate and perfect deflection of the balls by the cushions. For this object among other constructions the cushions have been provided with a metallic spring-band or wire, located in some cases on and against the impact face of the cushion, and in other cases within the body of the rubber of which the cushion was made, and by such constructions the object sought has been, to a greater or less extent, secured. Use, however, has demonstrated that, while such bands or wires are practically the best resistant to the embedment of the ball, with a proper preservation of elasticity to the cushion, yet, owing to the imperfect union heretofore made between the metallic wire or band and the rubber, the wire or band soon loosens in, or it opens from, the rubber, or the rubber loosens about or opens from it, causing not only a grinding away and deterioration of the rubber, but, also, as the said separation of the rubber and metallic wire or band necessarily does not occur evenly at all points of the cushion, a proportionate uneven and imperfect elastic action of the cushion, at different points of its length. The object, therefore, of this invention is to substantially and and practically unite the metallic wire or band and the rubber, or sufficiently so, as in the use of the cushion, to prevent their separation, and thus the resulting deterioration of the cushion and its consequent inaccuracy in action under the impact of the balls. This object I accomplish by the use, within the rubber body of a billiard-cushion, of a metallic band or wire that, from end to end, is provided with a woven fabric casing or covering. This has such a

close and tight contact upon the wire or band as, under any practical strain between the two—that is, either by a lengthwise pull upon the wire, band, or casing, or upon both wire and casing, by a lateral pull, or by a wrenching or twisting of casing wire or band, or both—to substantially prevent the separation of the metal wire or band from its casing, thereby preventing, through the union of the rubber and the woven casing, the separation of the wire or band from the rubber.

In the accompanying plate of drawings a billiard-cushion constructed according to the present invention is shown, Figure 1 being a vertical cross-section, and Fig. 2 a face view, of a metallic band cased or covered with a woven fabric.

A in the drawings represents a billiard-cushion for billiard-tables, which cushion may be made of India rubber in any of its ordinary elastic compounds, and as to shape of the general outline shown, or otherwise, as is now common for billiard-cushions, the shape, compound, and mode of attachment to the table forming no part of this invention. *a* is a band made of spring-steel or of any other suitable spring metal, and *b* a woven fibrous casing or covering to band *a*. This fibrous casing *b* tightly and closely fits and hugs the band, so that, under any practical strain, the band will not move in the casing, and the casing will not slip or move upon the band, and one mode of securing this close fit and hug of the fibrous casing on the band is to weave the casing directly on the band in any of the well-known looms or machines adapted for such weaving.

In the manufacture of the cushion A the compound band *a b* (metal *a* and woven case *b*) is to be entirely surrounded by rubber, and it is to be along the length of and just within the cushion in a line parallel to its face B, against which, in the use of the table, the balls strike. The location, as above stated, of the compound band *a b* is obtained by suitably securing it in the rubber-cushion mold before vulcanization; and, obviously, by vulcanizing the rubber, a union is made between it and the woven casing of sufficient strength to practically resist all strains at such line of joint resulting from the impact of the balls on the

cushion-face B, the woven casing under such strains being held to the band by its tight and close fit and hug thereof herein above stated.

A cushion constructed as herein described obviously not only prevents the embedment of the ball, but also prevents a separation between the resistant used to prevent said embedment of the ball and the rubber of which the cushion is made—a result of much importance.

In lieu of using a flat metal band, *a*, a round band or wire may be employed, but a flat band is preferable.

Having thus described my invention, I do not claim, broadly, the use of a metal band, *a*, in a rubber billiard-cushion; but

What I do claim as my invention is—

An India-rubber billiard-cushion constructed with an embedded spring-band, *a*, having woven about it a tight and close fitting fibrous casing or covering, *b*, all substantially as described, for the purpose specified.

JOHN E. CAME.

Witnesses:

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