G. BAYLIFF.

Billiard-Table.

No. 223,098. **Patented Dec. 30, 1879.**

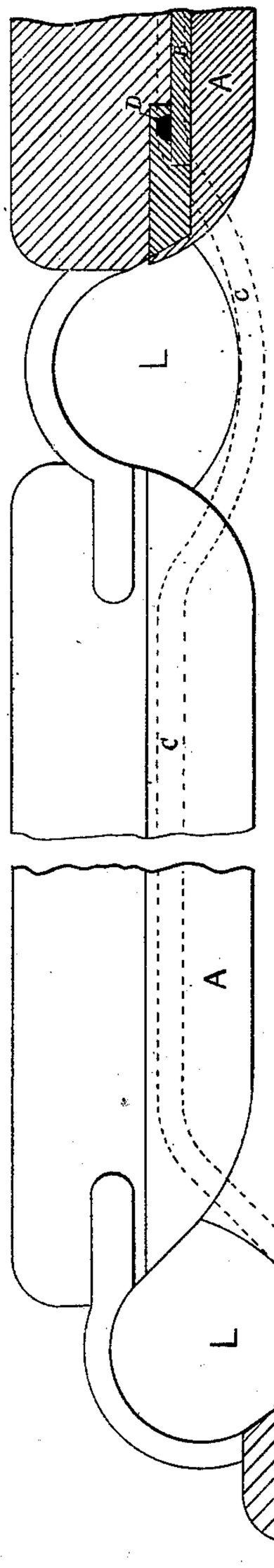

Fig. 1.

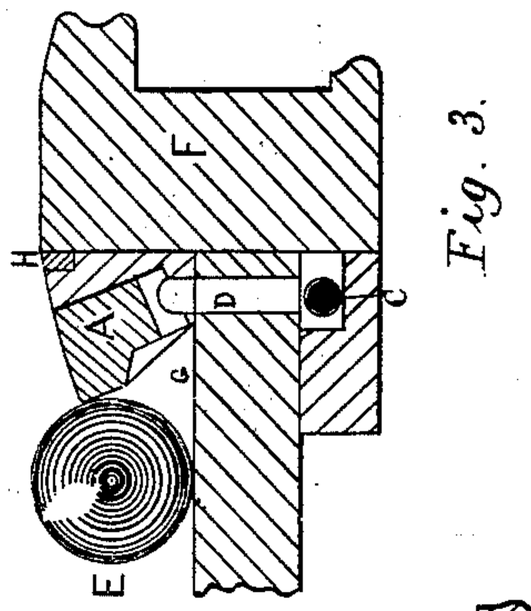

Fig. 3.

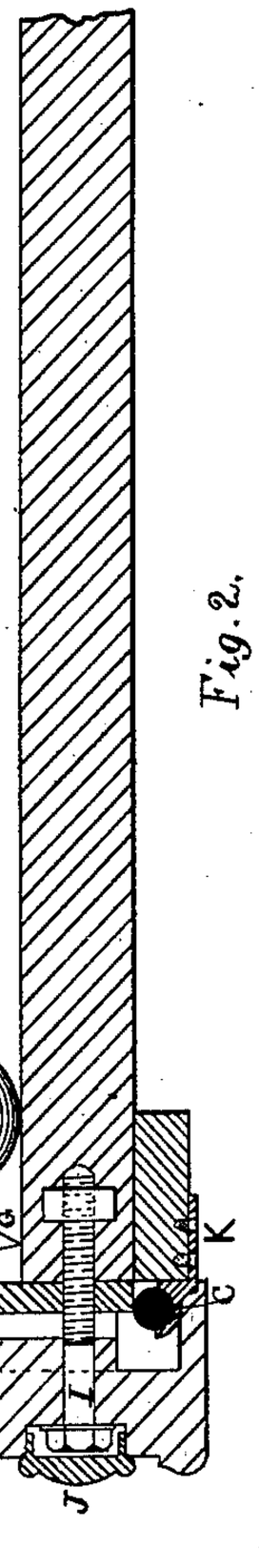

Fig. 2.

Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE BAYLIFF, OF LISCARD, COUNTY OF CHESTER, ENGLAND.

IMPROVEMENT IN BILLIARD-TABLES.

Specification forming part of Letters Patent No. **223,098**, dated December 30, 1879; application filed July 30, 1879.

To all whom it may concern:

Be it known that I, GEORGE BAYLIFF, of Liscard, in the county of Chester, in the Kingdom of England, have invented new and useful Improvements in Billiard-Tables, of which the following is a specification.

This invention is designed to give the cushion a more perfect reaction on the billiard-ball, and thus improve the working of the game.

First, I mold the cushion A in such manner that the back bearing-surface above the center line of contact with the ball shall be equal in vertical area with that beneath, and thus the impact of the ball is equally distributed through the cushion and over the pushing-plate at back. By this means greater accuracy in the rebound of the balls is obtained.

Second, I mold the cushions to the right shape at once, either the entire length, with ends to fit the pockets, all in one mold, or I mold the ends for the pockets in independent molds and join them onto straight lengths of molded cushions. Sometimes, however, I simply join on the molded ends to the straight lengths molded or pared to shape by hand.

Third, I place at the back of the cushion a plate, B, made of metal or other material harder than what has ordinarily been used, and capable of transmitting heat. The cushion is attached to this plate so as to take and transmit the pressure or push of the ball direct, the hard plate being preferably vertical.

Fourth, near the plate, to which the cushion is attached in any convenient position—such, for instance, as under the slate in old tables—I attach a tube for circulating hot air, hot water, steam, or other suitable fluid. It is partially surrounded with air, and apertures or airways are left or made in the structure to admit the air heated by the pipe to circulate about the cushion and warm it.

The water or other liquid in the pipe is heated in a small boiler to which the pipe is attached and heated with an oil or gas flame or other heating medium below, the water circulating from the upper part of the boiler through the pipe in the table and back again to the bottom of the boiler.

Other forms or modes of circulating and heating the water or other fluid in the pipe can be used, if desired. This apparatus saves the constant trouble entailed in softening cushions, and the heating can go on while a game is in progress.

In private houses where games are only occasionally played it keeps the cushions permanently soft.

In the drawings, Figure 1 is a plan, partly in horizontal section, of my improved cushions and apparatus connected therewith; Fig. 2, a sectional elevation of part of cushion, and Fig. 3 an alternative plan used when applying the heating apparatus to old tables.

A is the cushion; B, the hard plate at the back; C, the pipe for circulating the heating medium; D, the airways, through which the heated air passes to warm the cushions. E is the ball, shown in the act of striking the cushion; F, the outside frame of the table. Bolts I pass through it and through the plate B to the bed of the table, binding all together. J is a cap covering the end of the recess for the bolts; K, a metal bracket or trough for supporting the pipes C. The cloth is tacked onto the outside frame at G, and is stretched over the cushion, and wedged into the space between the hard plate and frame by the wooden or other strips H. L are the pockets.

When applying the heating apparatus to an old table it is often not worth while to put in a new back and cushions. In this case I adopt the plan shown in Fig. 3, in which the air heated by the pipe traverses the holes shown in the slate.

I have not shown apparatus for heating the water or other fluid, as there are so many systems of heating small quantities of fluid that would be found suitable in use. I may fix a small boiler or heater underneath the table, or even in a recess, or attached to one of the table-legs; or I may use water taken from a household or horticultural boiler, if convenient, circulating it through the table and back to the boiler, the circulation being usually kept up by passing the pipe upward through the heating medium.

This invention applies to game-tables other than billiard-tables in which balls are used to rebound against soft elastic cushions.

I claim as my invention—

1. The combination of the cushions A, the plate B, formed of metal or equivalent material capable of conducting heat, and the heat-passages D, for the purposes described.

2. The combination of the cushion A, the heat-passages D, and the heating-pipe C, for the purposes described.

3. The combination of the heating-pipe C, support K, air-passages D, and back plate, of a heat-conducting material B.

4. The combination of the frame F, strip H, heat-passages D, and back plate, B, coming down below the level of the bed-plate and securely attached thereto.

GEORGE BAYLIFF.

Witnesses:

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