

C. GRAVELIUS.  
Billiard-Cue Tip-Fastener.

No. 165,562.

Patented July 13, 1875.

Fig. 1.

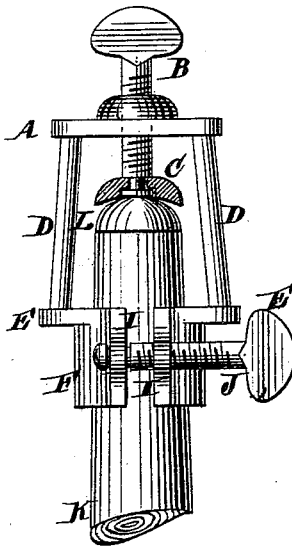
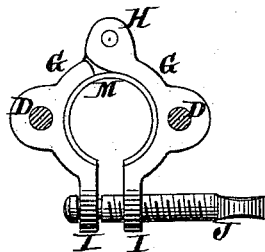


Fig. 2.



Witnesses.  
Otto Hufeland  
Chas. Wählers.

Inventor.  
Christian Gravelius  
Van Santvoord & Hauff  
Attys.

# UNITED STATES PATENT OFFICE.

CHRISTIAN GRAVELIUS, OF BROOKLYN, E. D., NEW YORK.

## IMPROVEMENT IN BILLIARD-CUE-TIP FASTENERS.

Specification forming part of Letters Patent No. 165,562, dated July 13, 1875; application filed May 26, 1875.

*To all whom it may concern :*

Be it known that I, CHRISTIAN GRAVELIUS, of Brooklyn, E. D., in the county of Kings and State of New York, have invented a new and useful Improvement in Billiard-Cue-Tip Fasteners, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents my improved fastener in the act of fastening a tip on the end of a billiard-cue. Fig. 2 is a cross-section of the fastener, taken in the line *x x*, Fig. 1.

Similar letters indicate corresponding parts.

This invention relates to apparatus for fastening tips on the ends of billiard-cues; and it consists in a cross-head, through the center of which passes a screw, on whose inner end is swiveled a pressing-cap, which presses the tip against the end of the cue. The cross-head is connected with a clamp, by which the apparatus is first firmly secured to the cue before the cap is pressed upon the tip. The clamp consists of two semicircular pieces, which are hinged to each other at one side, while at the other side they are provided with flanges, which receive a screw, one end of which is swiveled to one of the flanges, while the body of the screw fits in a screw in the other flange in such a manner that the screw operates to draw them together, so as to tighten the clamp upon the cue. The connection between the clamp and the cross-head is by means of rods, whose upper ends are riveted to the arms of the cross-head, while their lower ends are riveted in ears formed on the opposite sides of the clamp, so that the clamp and cross-head are prevented from approaching each other, as well as from becoming disconnected.

The letter A designates the cross-head of the apparatus. Through a tapped hole in the center of the cross-head passes a thumb-screw, B, on whose lower end is swiveled a cap, C, whose under side is so shaped as to conform to the shape of a "tip." From the ends of the arms of the cross-head extend rods D D, which are firmly secured or riveted to the cross-head by their upper ends, while their lower ends are secured or riveted through ears E E, that project from the sides of a

clamp, which is thus connected to the cross-head by the rods, and in such a manner that they can neither approach nor recede from each other. The clamp F consists of two semicircular plates, G G, hinged to each other by two of their ends at one side, as at H, while at the other side their other ends are provided with flanges I I, which are parallel with each other, and which receive a thumb-screw, J, by means of which they are separated or drawn together, the end of the screw J being swiveled in a hole in one of the flanges I, so that it can turn freely therein, but cannot move longitudinally, while the screw works through a tapped hole in the other flange, so as to operate the parts of the clamp, as described.

The interior of the clamp is covered with flannel or other soft material, so that the cue will not be injured by contact with the clamp, which, as well as the other parts of the apparatus, is made of metal.

The apparatus in Fig. 1 of the drawing is shown applied to a billiard-cue, K, in proper position for use in fastening a tip, L, upon the end of the cue.

In using the apparatus, the clamp is firmly secured upon the cue at a suitable distance from its end to allow the workman to get at the end of the cue when the thumb-screw B is raised. Glue or any suitable adhesive material is applied to the end of the cue, or upon the bottom of the tip, and the tip is then set upon the end of the cue, and the thumb-screw B is operated so as to bring the cap C down upon the upper side of the tip and press it with sufficient pressure to make it adhere to the cue, the clamp being secured to the cue with a sufficient hold to prevent it from slipping.

The cap and the thumb-screw by which it is operated are arranged so that their axes shall be in line with the axis or center of the clamp, so that the direction of motion of the cap will always be in line with the axis of the clamp.

The rods D, in connection with the cross-head and the clamp, constitute a frame in which the cap is held and operated, and the elasticity of the rods is sufficient to allow the

clamp to be opened far enough to permit it to be removed from and placed on the cue without injury to the apparatus.

I do not claim a clamp for attaching leathers to billiard-cue tips, composed of two jaws, which are operated by a thumb-screw, said clamp being formed with a frame, through which passes a thumb-screw carrying a pressing pad or cap, as such are old. Neither do I claim connecting the pressing-cap with a thumb-screw by means of a swivel-joint, as such is shown in the patent of T. Fuller, dated June 28, 1874.

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

The hinged clamp F, constructed with the

lateral flanges I I, and connected by rods D with the plate that supports the thumb-screw carrying the ordinary swiveled pressing-cap, in combination with the thumb-screw J, swiveled at one end to one of the lateral flanges, for the purpose of opening and closing the jaws by the action of the screw on one of the flanges, as and for the purpose specified.

In testimony that I claim the foregoing, I have hereunto set my hand and seal this 18th day of May, 1875.

CHRISTIAN GRAVELIUS. [L. s.]

Witnesses:

E. F. KASTENHUBER,  
J. VAN SANTVOORD.