# B. W. Bull,

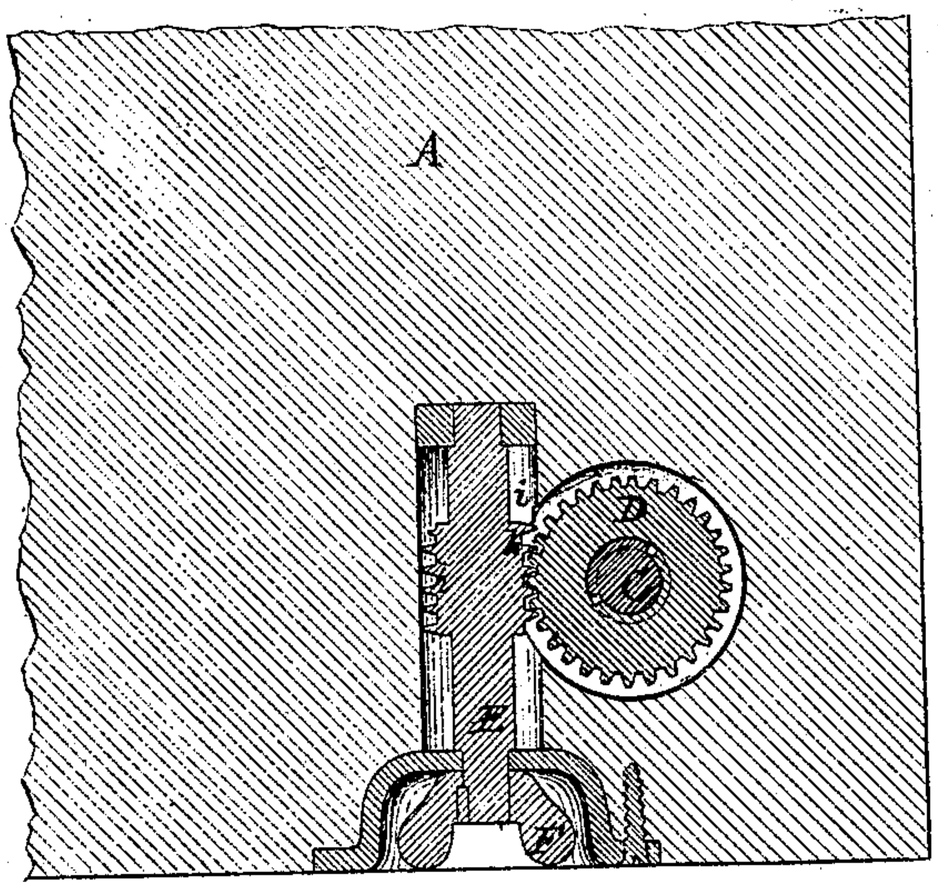
## Billiard Table Leveller.

No. 106,317. Patented Aug. 16. 1870.

Fig. 1




Fig. 2.




Witnesses.

J. F. Beale,
Chas. Hawdaway.

Buckland W. Bull.
by Crosby, Halsted & Gould.
his Attorneys.

# United States Patent Office.

BUCKLAND W. BULL, OF NEW YORK, N. Y.

*Letters Patent No.* 106,317, *dated August* 16, 1870.

## DEVICE FOR LEVELING BILLIARD AND OTHER TABLES, &c.

**The Schedule referred to in these Letters Patent and making part of the same.**

*To all whom it may concern:*

Be it known that I, BUCKLAND W. BULL, of the city, county, and State of New York, have invented certain Improvements in Mechanism for raising or lowering the legs of billiard and other tables, and articles of furniture, and leveling the same; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to an improved mechanism for readily raising or lowering, at will, one or more of the legs of billiard or other tables, piano-fortes, wardrobes, sideboards, and heavy articles of furniture generally, in order to level the same, to meet any inequalities or sinking of the floor.

It consists in combining with a vertically adjustable rod, having a screw-thread at its upper end, and extending through the leg of the table, a worm-wheel, within the frame or body of the table, actuated and held in position by an endless screw or worm, also located in the body of the table, and so as to be accessible to and controllable by the thumb and finger, without stooping.

Figure 1 represents a section of a table in vertical position with my improvement applied thereto.

Figure 2 is a horizontal section, showing a top view of my devices applied.

My invention has most value in connection with billiard-tables, in which a perfectly true horizontal position of the entire bed of the table is of paramount necessity, and I will describe it as applied thereto.

A represents a portion of the frame of the table or bed, and

B one of the legs.

The latter is bored through lengthwise, as seen, to receive the vertical rod C, which is provided with a screw-thread, *c*, at its upper end, and, preferably, with a strong broad base, *d*, at its lower end, the latter being adapted to project a little below the bottom line of the leg, and so as to rest upon the floor and receive its share of the weight of the table.

D is a worm-wheel or gear, located in a cavity made for it in the table, and having, through its center, a screw-threaded opening, fitted to receive the screw-threaded end *c* of the rod, and it is provided with a hub or socket, *e*, which projects into a small cavity, *f*, in the body of the table, as seen.

These cavities are made large enough to permit the wheel and its socket to be revolved therein freely.

At the top of the cavity *f* is, preferably, fitted a metal disk or plate, *g*, to afford a smooth, hard, frictional surface, to allow the easy turning of the wheel.

The table-leg may be secured to the table in any well-known manner. I have shown it as screwed into the same by means of a screw-thread on the leg, the top of the threaded part reaching about up to the lower line of the wheel, and thus serving to assist in keeping it steady in its place, although it is, in fact self-sustaining, by hanging at one side upon the worm, hereafter described.

The threaded end of the rod extends into a hole bored far enough up into the table to receive it when in its highest position.

E is a shaft, having a worm, *h*, thereon, and fitted to work in bearings placed in a horizontal opening, *i*, bored in the side of the table, as seen, the worm *h* engaging with the worm-wheel D.

A thumb-piece, or handle, F, serves to turn the shaft and its worm *h*, and thus to actuate the gear D, which, by turning upon the thread on rod C, serves either to lower or raise it, as the worm is turned in one or the other direction.

The thumb-piece is, preferably, sunken beneath the surface of the side of the table, so as to be out of the way, and not liable to catch in the clothing, &c., or to be turned accidentally.

The diameter of the worm wheel is made several times greater than that of the worm or endless screw, to lessen the power required to turn the latter, and, at the same time, cause the adjustment of the table to be made with the greatest delicacy and accuracy.

The operation is as follows:

The table or other piece of furniture rests with its whole weight upon the base of the rods C, and the frictional contact of the same with the floor of the room is such that, whenever it is found desirable or necessary to adjust the height of one or more corners of the table, to secure a true level, the turning of the worm will actuate the wheel, and the latter, being so lodged in its cavity, as stated, that it can neither rise nor fall therein, must, in turning, cause the table to rise or fall to the same extent that the wheel works it way up or down upon the thread of the rod, and forces the latter either inward or outward.

By my described devices the inconvenience and uncertainty of leveling by wedging are avoided, and there is no need of calling in the aid of a mechanic, or of the use of tools for the purpose, nor of stooping or getting upon the knees to effect the adjustment.

Casters may or may not be used with my invention as may be desired.

To ascertain the more readily when the table shall have been adjusted to a true level, or needs adjustment, I propose to bed a spirit level in each of the sides of the table.

I do not claim an arrangement of table-lifting de-

vices secured to and within a metallic case, the latter being placed within a cavity in the bottom of the leg and near the floor; nor do I claim any contrivance whereby the whole table-top is bodily lifted or lowered simultaneously, as in cases where dining-room tables are elevated to convert them, temporarily, into tables upon which billiards may be unsatisfactorily played; but

I claim—

The described arrangement of the rod C, screw-threaded at its top, and extending through the leg of the table, the threaded gear D, located in a cavity in the body of the table above the leg, the worm *i*, also located within the body of the table, and the fixed thumb-piece F, or its equivalent, the whole constructed and operating as set forth.

BUCKLAND W. BULL.

Witnesses:

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