

(No Model.)

W. D. LITTLE & E. W. BOGARDUS.

ADJUSTER AND LEVELER FOR BILLIARD AND POOL TABLES.

No. 474,750.

Patented May 10, 1892.

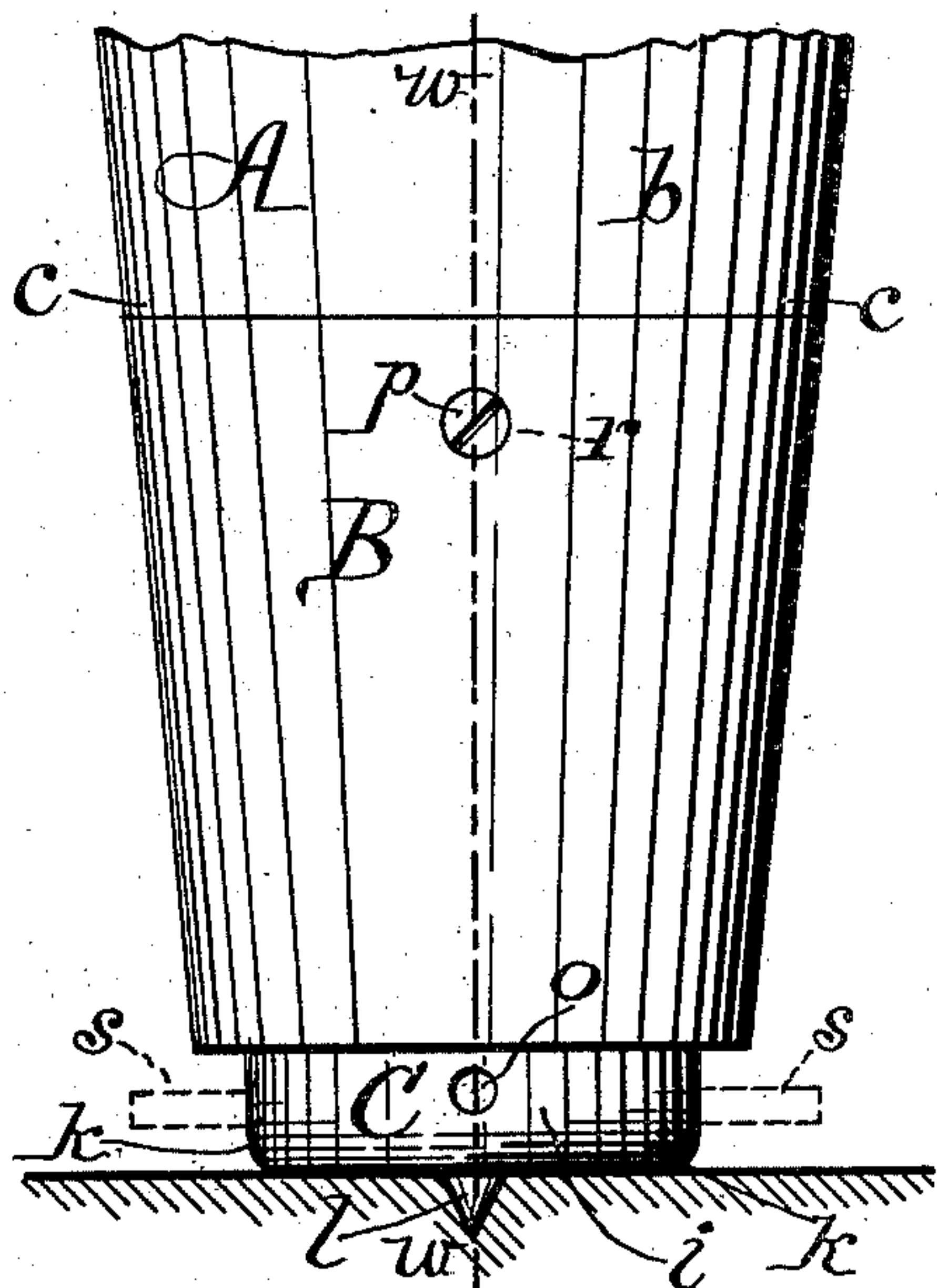


FIG-1-

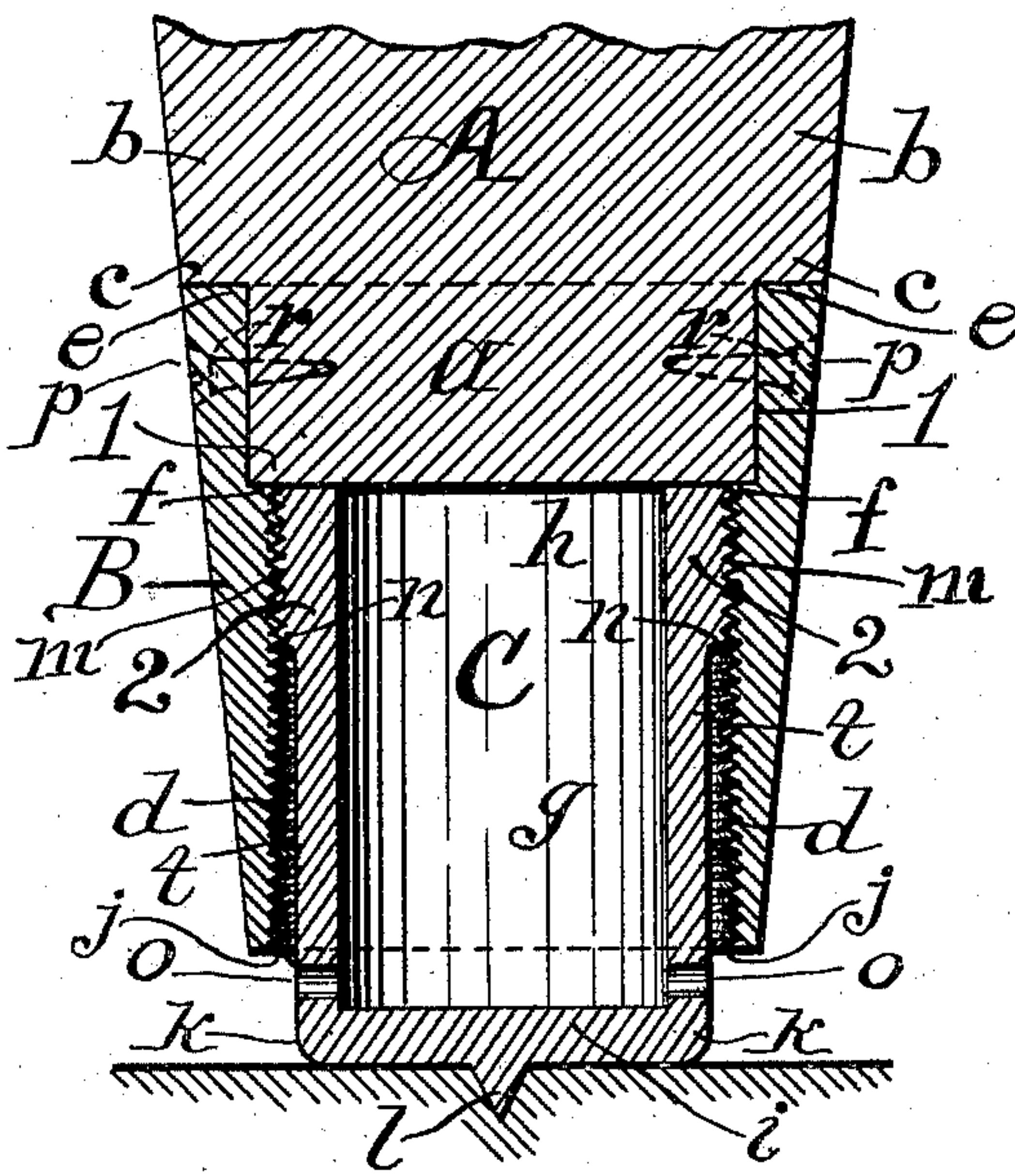


FIG-2-

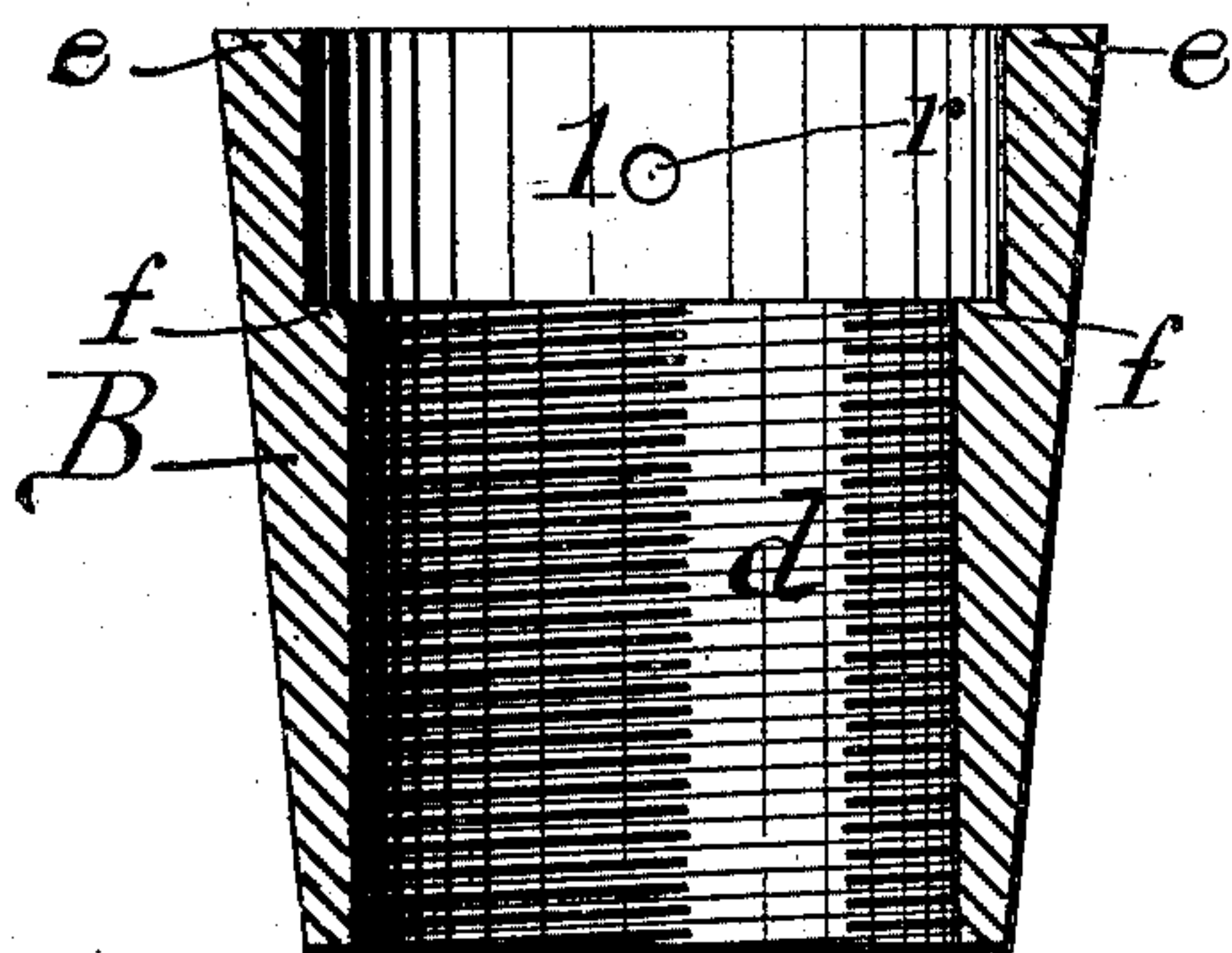


FIG-4-

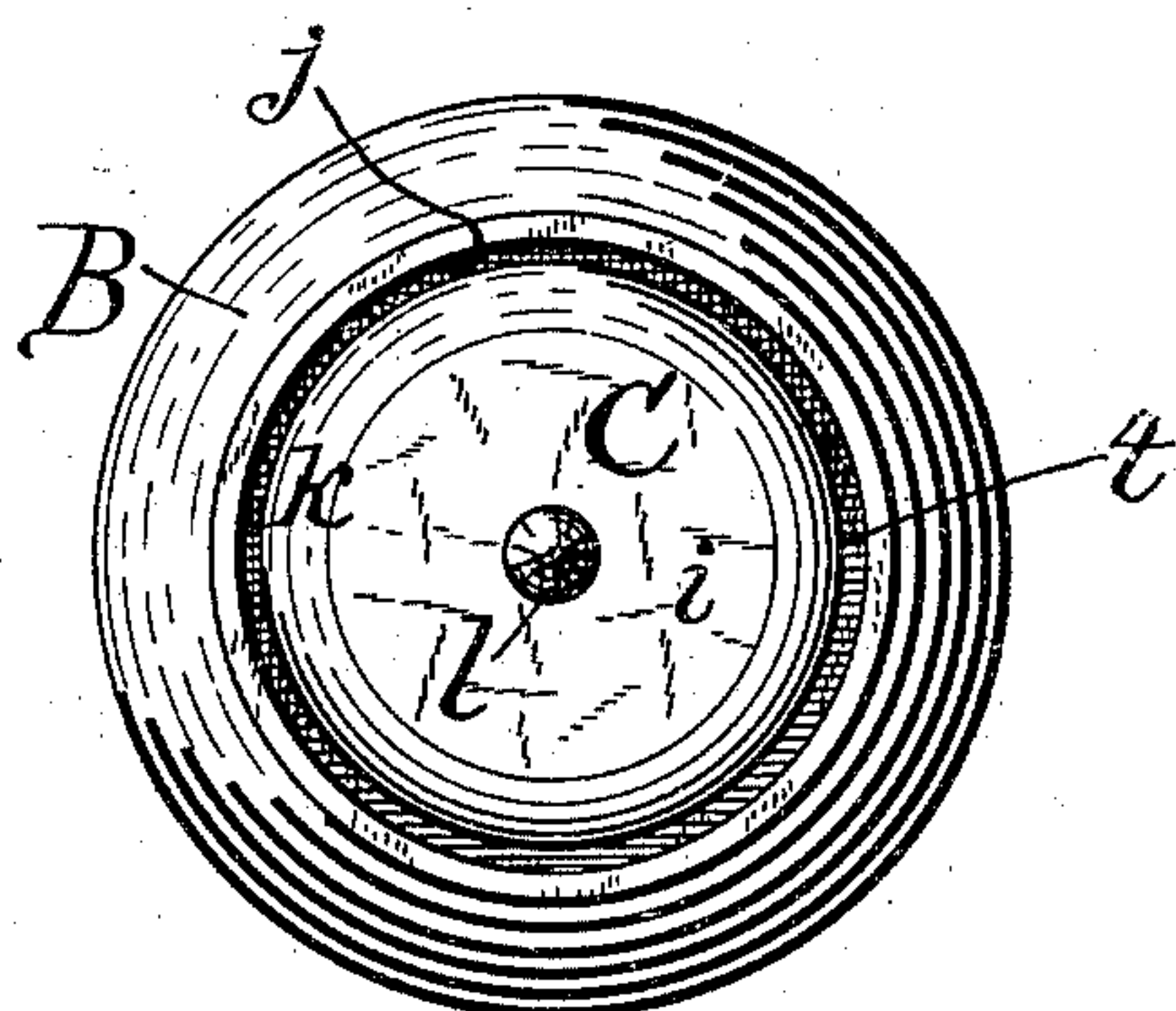


FIG-3-

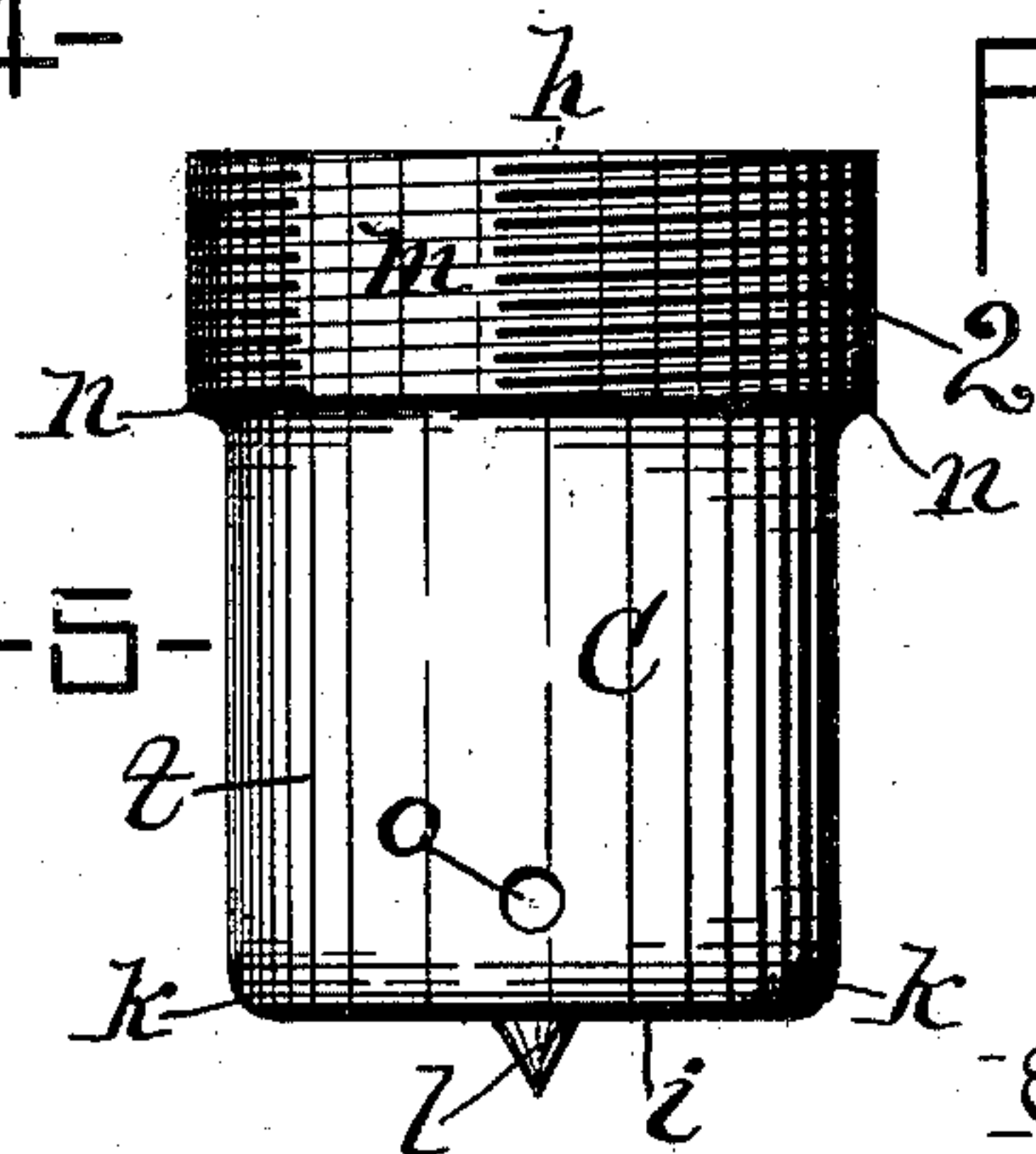


FIG-5-

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ADJUSTER AND LEVELER FOR BILLIARD AND POOL TABLES.

SPECIFICATION forming part of Letters Patent No. 474,750, dated May 10, 1892.

Application filed May 25, 1891. Serial No. 393,928. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM D. LITTLE, of Syracuse, in the county of Onondaga, and EVVA W. BOGARDUS, of Port Byron, in the county of Cayuga, State of New York, both citizens of the United States, have jointly invented certain new and useful Improvements in Adjusters and Levelers for Billiard and Pool Tables; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of our improved adjuster and leveler for billiard and analogous tables as applied to a leg of the table; Fig. 2, a central vertical section of same, taken upon line *ww* in Fig. 1; Fig. 3, a bottom plan view of our device separated from the leg; Fig. 4, a detail in longitudinal section of the stationary interiorly-threaded sleeve entering into the construction of our device; Fig. 5, a detail side elevation of the lifting-screw adapted to enter and engage with the threaded sleeve aforementioned.

Like letters and figures of reference denote corresponding portions throughout the several views of the drawings.

Our invention has reference to that class of devices designed to remedy the customary inconvenience, disadvantages, and drawbacks experienced in securing readily and easily the bed or playing-surface of a billiard, pool, or analogous table perfectly level horizontally, and whereby a level surface may be obtained.

The object or intent of our invention is to furnish a device of the character mentioned which will insure ready and expeditious means for bringing the table to a perfect or uniform level without danger of jarring or straining same, producing a device which is of effective, durable, and comparatively simple construction and readily applied to a table leg or standard, an article embodying novel details in its formation, imparting increased utility, reliability, and operativeness of its parts, and coincidentally enhancing the appearance of the table-leg whereto it is applied.

Our invention consists in the several novel features of construction and combination of

parts and operation, as hereinafter described, and specifically enumerated in the claims hereto annexed.

In the drawings, A denotes the lower portion of the leg of a table, said leg terminating at its bottom part in a reduced portion or tenon *a*, preferably cylindrical in form, as is customarily the upper wider portion *b* of the leg, and *c* is an annular seat or shoulder created by the contraction of the lower end of the leg into the tenon *a*.

B is the stationary sleeve or shell, threaded internally the greater portion of its length, starting from its bottom, as indicated by the letter *d*, and terminating upwardly with an enlarged non-threaded bore or chambered portion extending from the top of the sleeve a medium distance downward and creating by its smooth circular wall projecting slightly beyond the threaded bore a mortise 1, into which is inserted the tenon *a* of the leg A, and creating by its annular ledges or shoulders *e* *f*, respectively, double bearings for the support of the table-leg, as clearly indicated in Fig. 2.

C represents the lifting screw or bolt, of cylindrical form and preferably tubular, as indicated by the letter *g*, having an open top *h* and a closed bottom *i*, the horizontal bottom or bottom wall *i* being rounded at its circumferential edge, as at *k*, and provided with a central point or sharp projection *l*, standing downward a brief distance. Exteriorly the lifting-screw C is provided with a cylindrical enlargement or head 2 at its upper portion and having peripheral screw-threads *m*, the point of divergence of the head portion 2 of the lifting-screw creating, necessarily, an annular offset *n* thereat.

o o are orifices formed in the vertical wall of the screw C adjacent to its lower end, adapted to receive the end of any suitable bar or other instrument for turning the screw. Said lifting-screw is, as is discernible, perfectly smooth externally until its junction with the offset of the threaded head 2 thereof. This lifting-screw C, being inserted within the stationary sleeve B, engages therewith by means of the threads of its head engaging or meshing with the surrounding threaded surface of the sleeve B, the screw C when rotated serv-

ing to raise or lower the sleeve B and the seated leg extremity, according to the direction of rotation of said screw. The sleeve B is prevented from turning by means of screws 5 (or bolts or pins) *p*, inserted through perforations *r* at the upper portion of the sleeve or shell and passing into the side of the tenon *a* of the table-leg. When preferred, side arms or knobs *s* may project from the lower end of the lifting-screw C, to be grasped by any suitable implement for the rotating of said part 10 in lieu of the orifices *o o*.

Our object in having the outer surface of the lifting-screw smooth the major portion of 15 its length is that no threaded surface will present itself to the eye, even though the table-leg seated upon the stationary sleeve should be raised upward a considerable distance, and thereby obviating any presentation to the observer's sight of screw-threads or other unsightly projections and positively insuring the showing of a smooth and pleasing surface and 20 contour, irrespective of the degree, within practical bounds, to which the individual legs are raised or lowered for the adjusting of the table bed or top in a level position, the appearance externally of the leg and our attached device being clearly shown in Fig. 1 of the drawings.

Our object in providing our lifting-screw with an enlargement or head externally threaded is to insure the non-contact of the lower and diminished smooth portion with the circumadjacent threaded surface of the inclosing sleeve, as clearly illustrated in Figs. 2 and 3 of the drawings. The effect of having the circumferential edge of the bottom of the lifting-screw slightly rounded or convex is to prevent any liability of the boundary edge of 40 the screw's bottom from cutting or working into and marring or defacing the floor whereon the table may be standing; and the object of providing the horizontal bottom of the screw with a central point is to insure the leg (or legs) of the table remaining stationary horizontally when at rest, or when being raised or depressed by our device, the central point projecting into the floor serving as a center pivot for the rotating lifting-screw. When deemed 50 preferable or desirable, the central point may, it is evident, be dispensed with, particularly in those instances wherein it may appear advantageous to so place the table in position on the floor as to admit of its being shifted 55 along the floor to a new location without necessity of lifting same therefrom; but in those numerous cases wherein the table is to all practical intent permanently located at the outset the value of retaining the central point or projection upon the bottom of our device 60 is self-apparent, preventing, as it does, all lateral movement of the table-leg and creating a pivotal point for the rotating screw.

Obviously each leg of the billiard or other 65 analogous table is provided with our improved adjusting and leveling device, and when our appliance is secured to the legs at a manu-

factory of tables the legs are made shorter than usual in order to allow for the attachment of our device without the increasing of 70 the adjuster and leveler provided legs beyond their customary length. In those instances when the appliance is respectively attached to tables already in service the individual legs are sawed off a distance corresponding 75 to the length of the lifting-screw when screwed upward within its encompassing sleeve to its fullest extent, and the reduced or tenon extremity of the leg is formed by utilizing a hollow auger or other suitable tool, the height 80 of the tenon corresponding to the height of the mortise or seat of the sleeve whereon it is mounted.

To adjust the height and level the table, all that is necessary is to turn one or more of the 85 lifting-screws disposed upon the table-legs through the medium of any suitable bar or other satisfactory tool inserted in the orifices at the base of the lifting-screw.

As may be understood from the drawings, 90 by preference at the time of the attachment of our device to each individual table-leg we so have the lifting-screw disposed as to allow the leg to approach to its fullest extent the floor or other platform whereon the table may 95 be placed.

It may readily be discerned that an annular space or opening *j* is created at the lower portion of our adjuster and leveler through the disposing a slight distance apart of the 100 smooth peripheral surface of the lifting-screw C and the smooth peripheral surface of the interior portion of the encompassing stationary sleeve B, and whereby absolute non-contact and separation of aforesaid parts are thoroughly insured at their smooth contiguous 105 portions.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is— 110

1. The herein-described adjuster and leveler for billiard and pool tables, comprising a sleeve adapted to be secured to the leg of a table, said sleeve having interior screw-threads extending to its lower extremity, and 115 a rotatable lifting-screw, the upper end of which is screw-threaded and engages the threaded portion of the sleeve and the lower portion of which is smooth, of substantially the same diameter from end to end and in 120 non-contact with the encircling wall of the sleeve, said screw also having a broad base on which it rests and turns, which base is always in contact with the floor and has rounded corners to prevent injury to the floor 125 in turning.

2. The herein-described adjuster and leveler for billiard and pool tables, comprising a sleeve adapted to be secured to the leg of a table and formed with a mortise *l*, shoulder 130 *f* at the lower end of said mortise, and screw-threads extending from said shoulder to the lower end of the sleeve, and a rotatable lifting-screw, the upper end of which is screw-

threaded and engages the threaded portion of the sleeve and the lower portion of which is smooth, of substantially the same diameter from end to end and in non-contact with the encircling wall of the sleeve, said screw also having a broad base on which it rests and turns, which base is always in contact with the floor and has rounded corners to prevent injury to the floor in turning.

- 10 3. The combination, with the leg of a table having a tenon *a*, of the herein-described means for adjusting the leg, said means consisting of a sleeve immovably secured to said leg and formed with a mortise 1, adapted to receive said tenon, said sleeve being also formed with shoulders *e f* at the top and bottom, respectively, of said mortise, said shoulder *e* engaging the shoulder on the leg at the top of said tenon and the said shoulder *f* engaging the bottom of said tenon and inter-
20 only screw-threaded below said tenon, said

screw-threads extending to the bottom of said sleeve, and a rotatable lifting-screw having screw-threads at its upper end engaging those of said sleeve and a non-threaded portion below said threaded portion, said non-threaded portion extending from the lower end of said threaded portion to the base of said screw, of substantially the same diameter from end to end and in non-contact with the surrounding portion of the sleeve, and said base being broad and having rounded corners, whereby the necessity for an additional support or step is obviated, substantially as specified.

In testimony whereof we affix our signatures, in presence of two witnesses, this 14th day of April, 1891.

WILLIAM D. LITTLE. [L. S.]

EVVA W. BOGARDUS. [L. S.]

Witnesses:

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