

C. S. BURTON.
EXTENSION TABLE.
APPLICATION FILED MAR. 20, 1909.

943,337.

Patented Dec. 14, 1909.
2 SHEETS—SHEET 1.

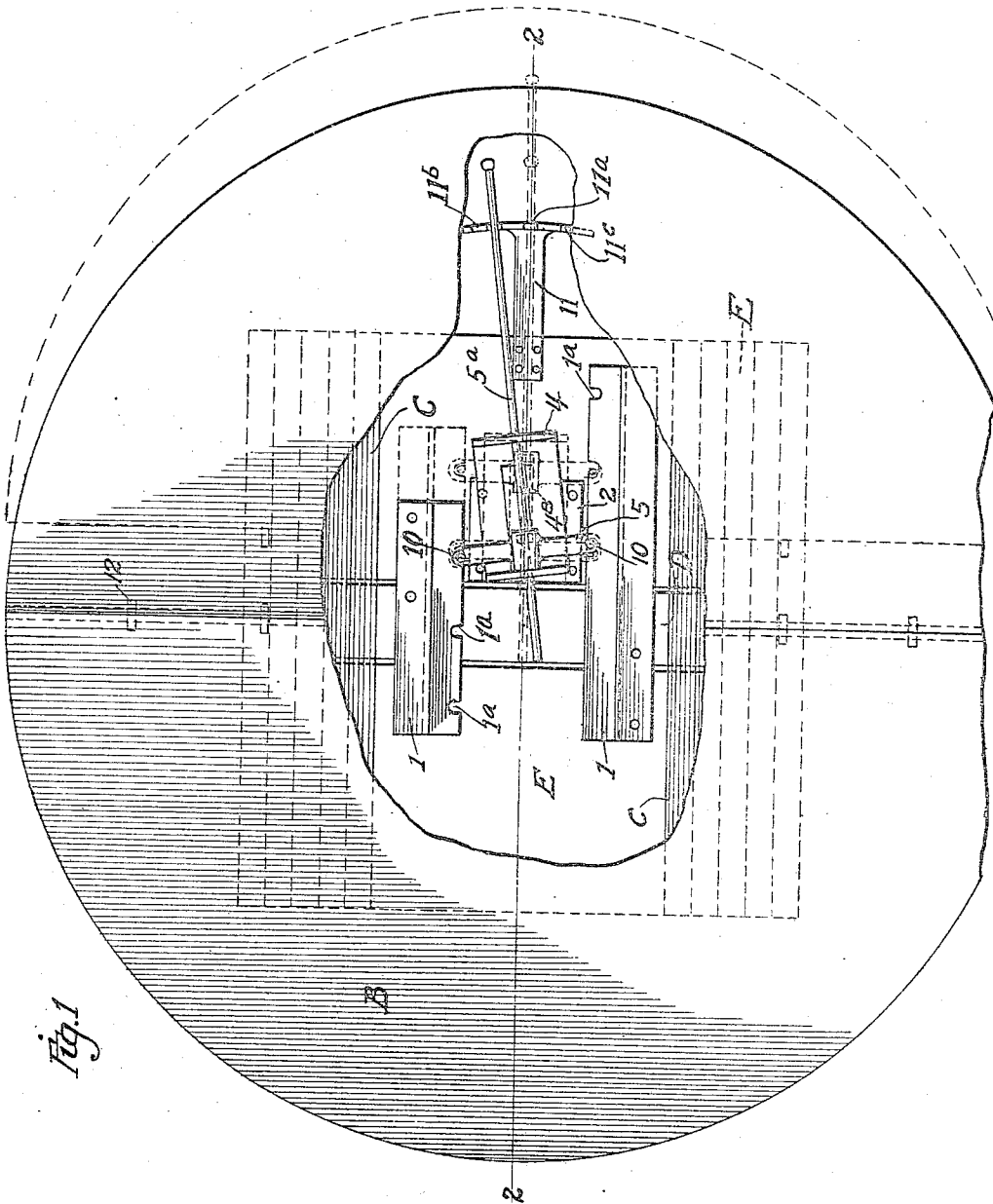


Fig. 1

Witnesses

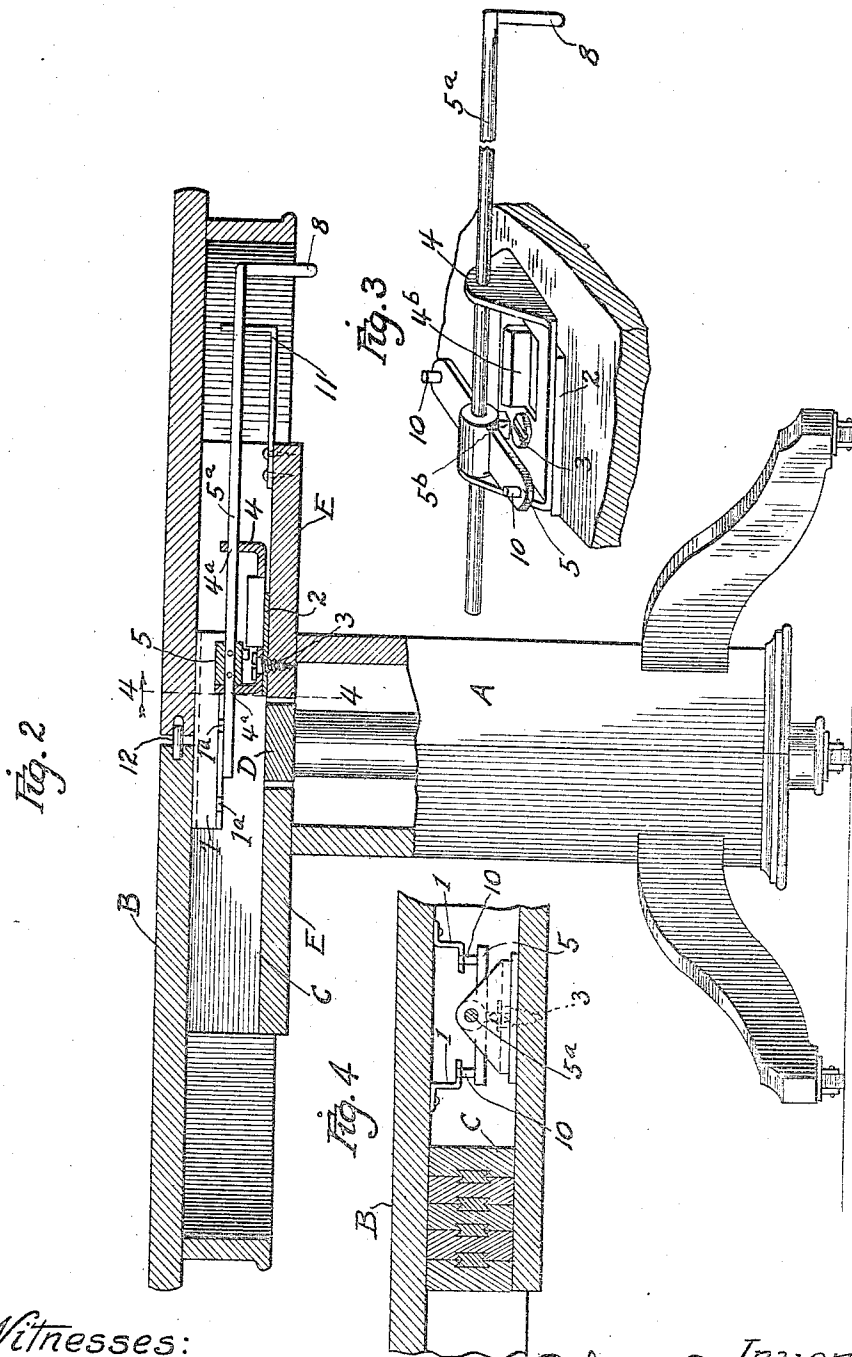
M. Gertrude Ady
J. S. Abbott

Inventor
Chas. S. Burton
By
Burton & Burton
his Attorneys.

943,337.

C. S. BURTON.
EXTENSION TABLE.
APPLICATION FILED MAR. 20, 1909.

Patented Dec. 14, 1909.
2 SHEETS—SHEET 2.



Witnesses:
M. Gertrude Ady
J. S. Abbott

Inventor:
Chas. S. Burton
By
Burton & Burton
Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES S. BURTON, OF OAK PARK, ILLINOIS, ASSIGNOR TO EMIL TYDEN, OF HASTINGS, MICHIGAN.

EXTENSION-TABLE.

943,337.

Specification of Letters Patent.

Patented Dec. 14, 1909.

Application filed March 20, 1909. Serial No. 484,762.

To all whom it may concern:

Be it known that I, CHARLES S. BURTON, a citizen of the United States, residing at Oak Park, in the county of Cook and State of Illinois, have invented new and useful Improvements in Extension-Tables, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide in an extension table of the type in which the top is extensible independently of the base, improved means for equalizing the extension of the two top members.

It consists of the features of construction and combinations shown and described as indicated in the claims.

In the drawings:—Figure 1 is a top plan view of a portion of a table embodying this invention, the top being broken out to show the interior devices which are concerned in this invention. Fig. 2 is a section at the line 2—2 on Fig. 1. Fig. 3 is a perspective view of the operating device and its mounting and engagements. Fig. 4 is a section at the line 4—4 on Fig. 2.

The drawings represent a table of ordinary construction as to the parts not concerned in the invention, comprising a pedestal, A, top member, B, and extension slides, C. The pedestal is represented as divided for extension of the table in addition to that which may be effected by extending the top members and their respective pedestal members, but this is not material to the invention, the table being thus represented for the purpose of indicating that the invention is applicable to such a table as well as to tables having undivided pedestals.

D is the cross-bar which connects the middle slides and is adapted to carry a center leg when such leg is deemed necessary.

E, E are the pedestal cap stretchers,—that is, boards rigid with the two pedestal members respectively at the top thereof, and extending transversely for carrying the slides which are required to be rigid with the pedestal members respectively. For the specific purpose of this invention, which is to prevent the unequal extension of the two top members, which is dangerous because of rendering the table overbalanced at one end and too liable to be tipped over by weight or pressure at that end, the devices about to be described are provided, which necessitate

the extension of the two top members by alternating the steps each one-half of the filler width so that extension equal to a filler width or multiple thereof must necessarily be divided equally between the two members. These devices comprise a notched locking bar, one secured to each table top member, B, and extending across the meeting plane under the opposite member to a distance from the actuating device herein- after described at least equal to the maximum extension of the table members relative to the pedestal members. A convenient form of these bars is that shown, in which each consists of a piece of Z bar, the two bars being mounted with their flanges horizontal and corresponding flanges facing each other, the upper flange being utilized for securing the bar to the table top, and the lower flange having notches, 1^a, for the purpose hereinafter described.

Upon one of the pedestal cap stretchers, E, there is mounted a wearing plate, 2, above which there is mounted on a vertical pivot, 3, a bracket or bearing frame, 4, in which there is journaled for both longitudinal and rocking movement a longitudinal shaft, 5^a, said shaft having secured to it for both rocking and longitudinal movement with it a rocker, 5. The hub of this rocker constitutes the means of stopping the longitudinal movement of the shaft, which is thus limited to the difference between the length of said hub and the distance between the two bearings, 4^a, 4^a, of the shaft in the bearing frame, said distance being substantially equal to one-half filler width, or about 4½ inches, 9 inches being the usual filler width. The shaft, 5^a, besides serving to rock and reciprocate the rocker, operates as the lever arm for the frame by which it may be swung about its vertical pivot.

The cross-head or rocker, 5, is positioned so as to extend below the notched flanges of the bars, 1, and has projecting upward from each end a pin, 10, for engaging the notches in the flanges respectively. The pins project upward far enough so that when the rocker or cross-head, 5, is horizontal both pins are engaged with their respective flanges, but when the rocker or cross-head is rocked to oblique position in either direction the pin on the end of the cross-head which is lowered is carried out of engagement with its flange, leaving only the other

pin which is carried upward engaged. The depth of the notches, 1^a, in the notched bars is sufficient to permit the rocker to be swung with the bearing frame, 4, about the vertical axis of the latter through a limited angle each way from the direct longitudinal center line of the table for a purpose which will be hereinafter explained. The rocker, 5, has a depending finger, 5^b, which at the horizontal position of said cross-head is vertical, and is engaged behind the end of a longitudinal rib, 4^b, on the bearing frame, 4, (said rib being conveniently made by being struck up from the bottom web of the frame when the latter is made of sheet material) said rib being so positioned and of such width and length that when the rocker is rocked for disengagement of one of its pins with the cooperating notched bar, said finger is carried clear of the end of said rib, permitting the rocker to be moved longitudinally with the shaft, 5^a, the length of said rib being substantially equal to the one-half filler width stroke which the rocker can make in the bearing frame, as above described; and at the limit of that stroke, the rocker being rocked in the opposite direction to shift its engagement from one of the notched bars to the other, the finger, 5^b, is carried clear of the outer end of the rib, 4^b, and the rocker can be thrust back with the shaft to original position, the finger traveling along the opposite side of the rib and entering again behind the same when the rocker or cross-head is brought to horizontal position.

On the stretcher or pedestal cap under the shaft, 5^a, there is mounted a segment, 11, having a notch, 11^a, at the middle for lodging the shaft when it is at middle position parallel with the length of the table, a notch, 11^b, for engaging it at one limit of its movement for swinging the bearing frame through the angle described, and a stop shoulder, 11^c, for stopping it at the opposite limit of such swing. The notches, 1^a, in the bars, 1, are relatively positioned so that when the table top members are closed together the pins, 10, on the rocker cross head may be engaged respectively with notches in the opposite bars when the shaft, 5^a, which is the rocker lever arm, is swung to one side for engagement, for instance, with the notch, 11^b, of the segment, 11, and preferably the positioning of the notches is such that at that position the rocker, by the engagement of the pins in the notches, holds the two table members tightly pressed together at their meeting edges. It will be seen that in swinging the shaft or rocker lever arm, 5^a, from such deflected position to the middle position the two pins engaging the two notch bars will operate as gear teeth upon the bars, 1, as rack bars, and will thrust the bars and thereby the two table members to which they are respectively attached, in

opposite directions, separating them a short distance. The parts are preferably proportioned so that this thrust amounts to a little more than half the length of the dowel pins, 12, by which the table top members are engaged when closed together. Starting, therefore, with the table top closed and said lever arm, 5^a, at position for engagement with the notch, 11^b, said arm being disengaged from that notch by being sprung upward and swung to middle position the table top members will be separated half the length of the dowel pins, the adhesion of the dowel pins in their sockets being thus broken so that further separation of the table members is not impeded by this cause. The lever arm, 5^a, being now rocked by swinging the handle 8 to one side or the other, one of the pins will be disengaged from its cooperating notch bar, the other remaining engaged, and the operator moving the rod longitudinally in the only direction in which such movement is possible, one table member will be moved away from the other one-half filler width, and no more, that being the limit of stroke possible. The notches, 1^a, being spaced from each other on the bars this same distance, the rocker being now rocked in the opposite direction will be disengaged from one bar and engaged with the other, and being then moved longitudinally in the only direction in which it can be thus moved, being the opposite of the original direction, the other table member will be moved one-half filler width, and the table will be spread a distance equal to one filler width plus half a dowel pin length. The lever arm, 5^a, will now be rotated to set the rocker cross head at horizontal position, bringing both pins into engagement with their respective notched bars, and the lever arm, 5^a, being swung over to the stop, 11^c, the two bars, 1, and their respective table top members will be thrust apart an additional distance equal to half dowel pin length. The top members will then be spread apart a distance sufficient to admit a filler clearing the dowel pins, and the operator by swinging the lever arm, 5^a, back to the notch, 11^b, will draw the table members together the full dowel pin length, causing them to clamp the filler tightly between them. When more than one filler is to be inserted the process of separating the table top will be continued in the same manner as above described, but through four steps instead of two, before performing the step for further increasing the spread half dowel pin length, and after inserting two fillers the table members will be closed up by swinging the lever arm back to the notch, 11^b, clamping both fillers between the table top members. A maximum extension ordinarily desirable is three filler widths, and the bars, 1, are of sufficient length and provided with a suitable number

of notches for being operated three steps in opposite directions, which will spread the table top members sufficiently to admit three fillers as described.

5 I claim:—

1. In an extension table having top members movable relatively to a supporting member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a feeding element having two back-and-forth movements, one longitudinal of the table and the other transverse thereto; means for limiting the longitudinal movement to half a filler-width distance and for preventing such movement except at the limits of the transverse movement, and means on the top members respectively for engagement by such feeding element at the respective limits of the transverse movement.

2. In an extension table having top members movable relatively to a supporting member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a feeding element having two back-and-forth movements, one longitudinal of the table and the other transverse thereto; means for limiting the longitudinal movement to a half filler-width distance; an obstruction in the path of the transverse movement which is cleared only at the limits of the longitudinal movement, and means on the top members respectively for engagement by such feeding device at the respective limits of the transverse movement.

3. In an extension table having top members movable relatively to a supporting member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a feeding element mounted for longitudinal reciprocation on the supporting member and adapted at the opposite limits of its rocking movement to engage the opposite top members respectively; means for limiting the reciprocation of such element to a half filler-width distance and for preventing the rocking except at the limits of said reciprocating movement.

4. In an extension table having top members movable relatively to a supporting member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a feeding element mounted on the supporting member for three back-and-forth movements, the first longitudinal of the table, the second rocking about a longitudinal axis, and the third swinging about a vertical axis; means for limiting the longitudinal movement to half a filler-width distance and for preventing the rocking movement except at the limits of such longitudinal movement; means on the top members respectively for engage-

ment by such feeding device at the respective limits of the rocking movement adapted to be both engaged by said device midway in the rocking movement, and means for swinging the device about the vertical axis when thus engaged with both top members.

5. In an extension table having top members movable relatively to a supporting member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a feeding element mounted on the supporting member for three back-and-forth movements;—the first, longitudinal of the table; the second, rocking about a longitudinal axis, and the third, swinging about a vertical axis; means for limiting the longitudinal movement to half-filler-width distance and for preventing the rocking movement except at the limits of such longitudinal movement; means on the top members respectively for engagement by such feeding device at the respective limits of the rocking movement adapted to be both engaged by said device midway in the rocking movement; means for swinging the device about the vertical axis when thus engaged with both top members, and means for releasably locking said device at one limit of its said swinging movement.

6. In an extension table having top members movable relatively to a supporting member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a feeding element mounted on the supporting member for three back-and-forth movements;—the first, longitudinal of the table; the second, rocking about a longitudinal axis, and the third, swinging about a vertical axis; means for limiting the longitudinal movement to half a filler-width distance and for preventing the rocking movement except at the limits of such longitudinal movement; means on the top members respectively for engagement by such feeding device at the respective limits of the rocking movement adapted to be both engaged by said device midway in the rocking movement; means for swinging the device about the vertical axis when thus engaged with both top members, and means for positioning said feeding device within its range of movement about the vertical axis longitudinal with respect to the table.

7. In an extension table having top members movable relatively to a supporting member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a rocker slidably mounted on the supporting member; stops limiting the sliding movement to a half filler distance; cooperating features on the rocker and the support on which it slides which engage to prevent the rocking movement between the limits of the sliding movement, the top members having parts engage-

able with the opposite ends respectively of the rocker at the opposite limits of its movements.

8. In an extension table having top members movable relatively to a supporting member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a frame pivoted on the supporting member for horizontal movement; a shaft mounted in such frame for rocking transversely and sliding longitudinally of the table; a cross head on such shaft having on its opposite arms means for engaging cooperating elements on the top members respectively, and such cooperating elements on the respective top members.

9. In an extension table having top members movable relatively to a supporting member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a feeding element mounted on the supporting member for three back-and-forth movements, the first longitudinal of the table, the second rocking about a longitudinal axis, and the third swinging about a vertical axis; stops in the path of the longitudinal movement which limit such movement to a half filler width distance; a stop in the path of the rocking movement which extends along the path of the latter movement; cooperating engaging devices on the feeding element and on the respective top elements, positioned for engagement, one at one limit and the other at the other limit of the rocking movement and for engagement of both midway in the rocking movement, and means for swinging said device on its vertical axis at such mid position.

10. In an extension table having top members movable relatively to a supporting member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a rock shaft extending longitudinally of the table; a bearing frame for the rock shaft mounted on the supporting member, the shaft being movable longitudinally in the bearing frame; a cross head on the rock shaft having means for engaging the top members respectively at opposite limits of its rocking movement; means on the respective top members which cooperate with the cross head at such engagement; stops which limit the longitudinal movement to a half filler width distance, and cooperating features on the shaft and its bearing frame which obstruct the rocking movement and which extend so as to cooperate for such construction intermediate the limits of the longitudinal movement and terminate for permitting the rocking movement at such limits.

11. In an extension table having top members movable relatively to a supporting

member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a bearing frame mounted on the supporting member; a rock shaft mounted for sliding in such bearing frame; a cross head on the rock shaft between the bearings less in the dimension lengthwise of the shaft than the interval between the bearings, the bearing frame having an upstanding rib intermediate the bearings under the shaft, the cross head having a projection downward which can pass the rib at the ends thereof in the rocking of the shaft and which encounters the rib to prevent rocking it at intermediate positions in the range of the sliding movement, the cross head and the two top members having cooperating features for engagement with the two top members respectively by the cross head at opposite limits of its rocking movement.

12. In an extension table having top members movable relatively to a supporting member for admission of fillers; in combination with such supporting and top members, an escapement device comprising a bearing frame mounted on the supporting member, a rock shaft mounted for sliding in such bearing frame, a cross head on the rock shaft between the bearings less in the dimension lengthwise of the shaft than the interval between the bearings, the bearing frame having an upstanding rib intermediate the bearings under the shaft, the cross head having a projection downward which can pass the rib at the ends thereof in the rocking of the shaft and encounters the rib to prevent rocking it at intermediate positions in the range of the sliding movement, the cross head and the two top members having cooperating features for engagement of the two top members respectively by the cross head at opposite limits of its rocking movement, the bearing frame being mounted on a vertical pivot and the engaging features on the two top members being positioned for engagement of both with the cross head at the middle point of the rocking movement of the cross head.

13. In an extension table having top members movable relatively to a supporting member for admission of fillers, in combination with such supporting and top members, an escapement device comprising a bearing frame mounted on the supporting member, a rock shaft mounted for sliding in such bearing frame, a cross head on the rock shaft between the bearings less in dimension lengthwise of the shaft than the interval between the bearings, the bearing frame having an upstanding rib intermediate the bearings under the shaft, the cross head having a projection downward which can pass the rib at the ends thereof in the rocking of the shaft and which encounters the

rib to prevent rocking at intermediate positions in the range of the sliding movement, the cross head and the two top members having cooperating features for engagement with the two top members respectively by the cross head at opposite limits of its rocking movement, the bearing frame being mounted on a vertical pivot and the engaging features on the two top members being positioned for engagement of both with the cross head at the middle point of the rocking movement of the cross head, and means

for positioning and holding the bearing frame at the middle point and at one limit of its range of swinging movement about its vertical pivot.

In testimony whereof, I have hereunto set my hand at Chicago, Illinois, this 4th day of March, 1909.

CHARLES S. BURTON.

Witnesses:

J. S. ABBOTT,

M. GERTRUDE ADY.