G. STEINGRUBER.

TABLE.

APPLICATION FILED APR. 26, 1913.

1,149,964.

Patented Aug. 10, 1915.

2 SHEETS—SHEET 1.

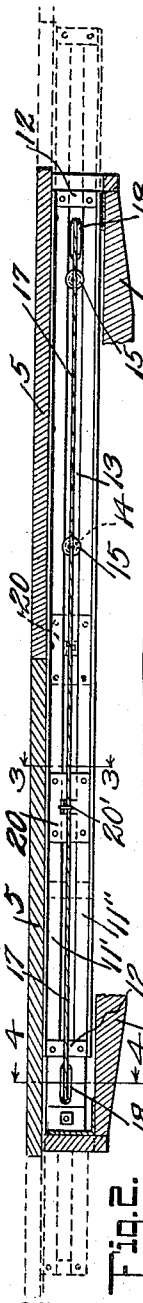


Fig. 2.

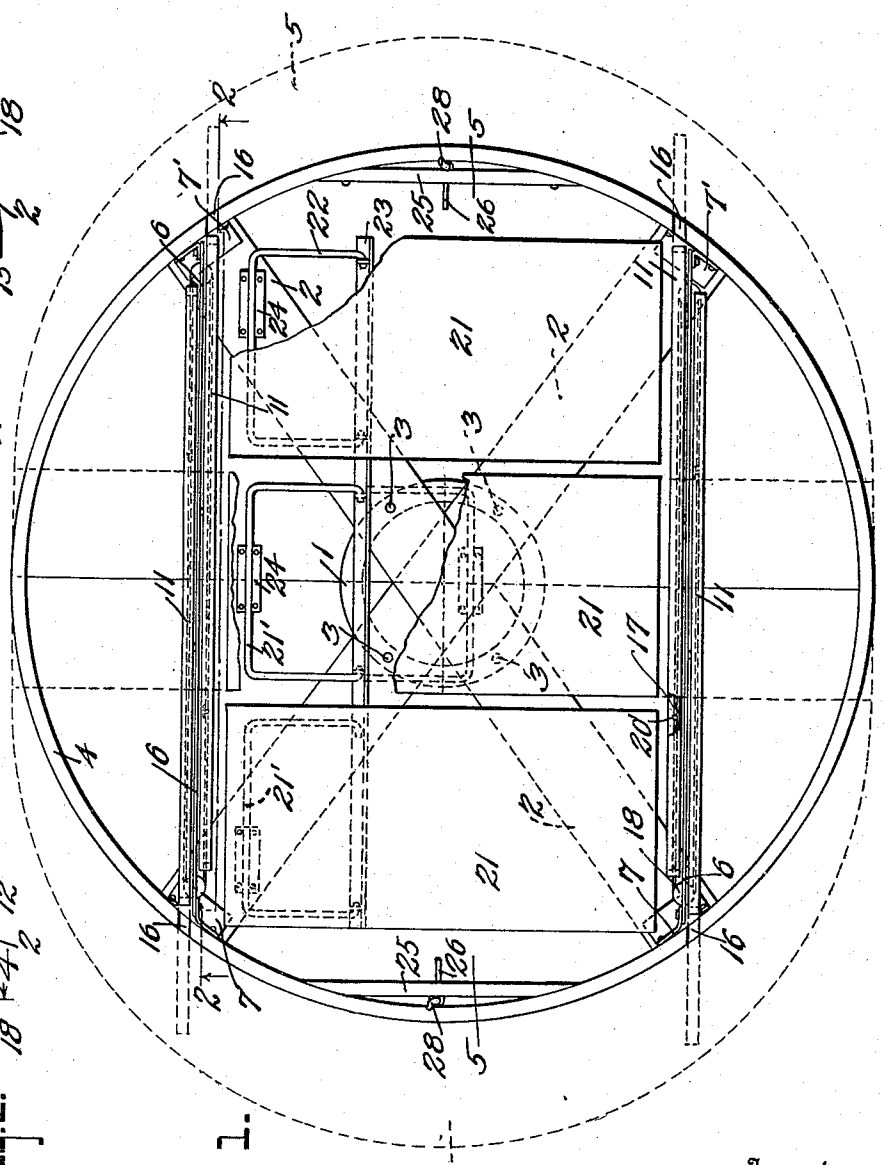


Fig. 1.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

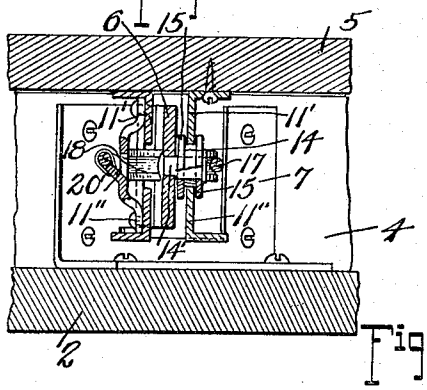


Fig. 4.

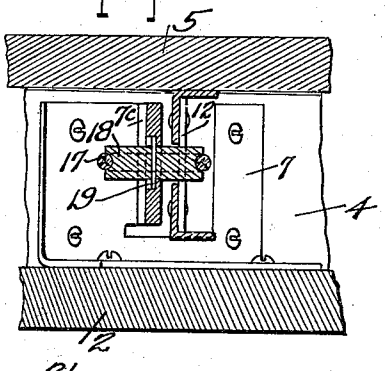
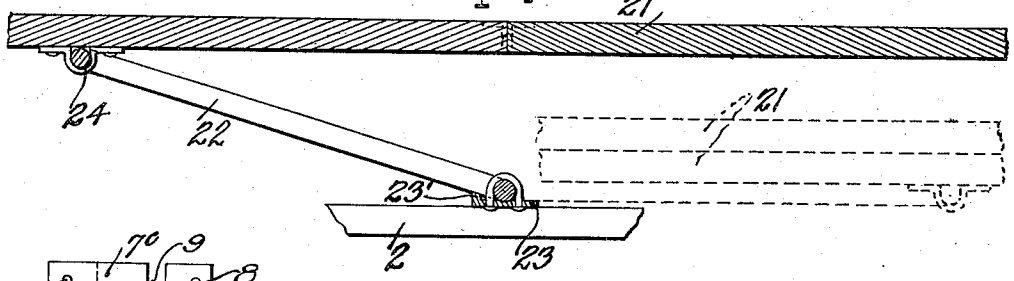


Fig. 5.



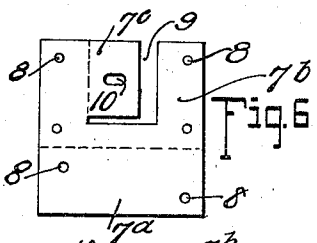


Fig. 6.

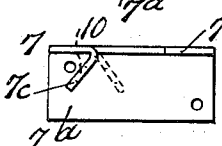


Fig. 7.

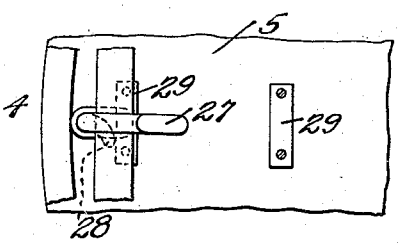


Fig. 8.

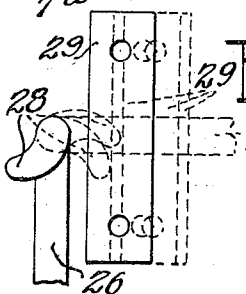


Fig. 9.

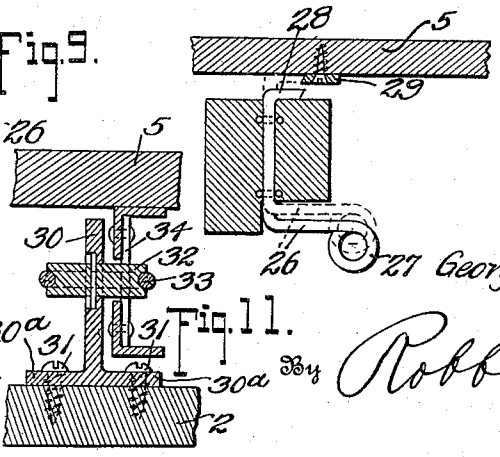


Fig. 10.

Fig. 11.

Witnesses

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TABLE.

1,149,964. Specification of Letters Patent. Patented Aug. 10, 1915.

Application filed April 26, 1913. Serial No. 763,820.

To all whom it may concern:

Be it known that I, GEORGE STEINGRUBER, a citizen of the United States, residing at Hazlehurst, in the county of Hazlehurst and State of Mississippi, have invented certain new and useful Improvements in Tables, of which the following is a specification.

The present invention relates to improvements in extension or dining tables of the type shown more particularly in my copending applications, Serial No. 734,558, filed December 2d, 1912, and Serial No. 736,801, filed December 14, 1912, respectively.

The object in view of this invention is the provision of novel forms of runners and runner supports which connect the top sections together, as well as mount them for relative movement upon the table base or main support.

In my application Serial Number 734,558, above mentioned is disclosed a peculiar form of what I term an extension and equalizing unit, that is to say, the extension instrumentalities for the table, and the equalizing instrumentalities are intimately associated not only by reason of proximity but owing to the interconnection of the parts of the extension means and said equalizing means, so intimate in such association in fact that I manufacture the extension and equalizing means alone and supply the same to the manufacturers of tables.

An essential feature of the present improvements, therefore, has been to so modify, construct, and shape the elements of the equalizing and extension unit mentioned that the parts are even more intimately correlated than in my previous construction. This relation will be more fully understood when I say that in the construction of an extension and equalizing unit hereinafter described fully, all of the parts of the extension means and equalizing means are so combined that they form practically a single mechanism or a single device, which with its parts assembled, is an article of manufacture of itself and requires only to be fastened in place as a whole on a table of the extension type, there being no necessity of a connecting together of any of the parts of the device, a feature which has been found of extreme importance in the practical use of my invention by table manufacturers.

It is further my design to provide a special form of bracket for the runner supports that may be readily stamped from a sheet of metal and so bent as to form a supporting member for the runner supports, and brace for the rim of the table as well as connecting these parts to the main table structure.

In carrying out the invention it is also contemplated to form slots or openings in the rim of my table whereby to guide the runners as the top sections of the table are moved into their outward or extended positions, all of the foregoing tending to improve in the details of construction of my particular form of table whereby the manufacturing of the same is greatly facilitated.

With the above and other objects in view this invention consists in the construction, combination, and arrangement of parts all as hereinafter more fully described, claimed, and illustrated in the accompanying drawings, wherein:

Figure 1 is a top plan view of a table constructed in accordance with my invention with the top of said table omitted and parts broken away to show more clearly the details of construction. Fig. 2 is a vertical sectional view taken about on the line 2—2 of Fig. 1. Fig. 3 is a fragmentary sectional view on the line 3—3 of Fig. 2. Fig. 4 is a similar view on the line 4—4 of Fig. 2. Fig. 5 is a fragmentary sectional view of one of the foldable leaves employed in conjunction with my table, and showing more particularly the leaf operating or positioning member. Fig. 6 is a plan view of a metallic blank from which the runner supporting brackets are formed. Fig. 7 is a top plan view of said bracket after bending into proper shape. Fig. 8 is a fragmentary bottom plan of the table locking means. Fig. 9 is a fragmentary top plan of the locking means showing in dotted lines the movement of the coöperating parts, and Fig. 10 is a fragmentary, vertical sectional view of the locking means showing the table structure in section. Fig. 11 is a fragmentary sectional view of a slightly modified form of runner support.

Throughout the following detail description and on the several figures of the drawings, similar parts are referred to by like reference characters.

In describing the invention and referring to the drawings, the numeral 1 designates

a suitable base or pedestal such as shown and described in my former applications, the customary cross-pieces 2 being secured upon the top of the same by means of lag screws or similar fastening members 3. To the extremities of these cross-pieces 2 is secured the stationary rim 4, the foregoing parts constituting the main support for the top sections 5 which are especially mounted and connected so as to be movable relatively to each other for extension to permit the insertion of extra leaves as will be more clearly set forth, as this description proceeds. Bridging the space between the extremities of the cross-pieces 2, and at each side of the table, I mount a runner support 6, the distance between which supports is slightly greater than one half of the width of the table top, these runner supports being fastened at each end on a special form of bracket 7 and 7'. Each of the brackets is stamped from a piece of sheet metal as shown most plainly in Fig. 6 of the drawings with the necessary screw-holes 8 and an angular slot 9, the metal then being bent at right angles to form the base portion 7^a, which is secured on top of the cross-piece 2 at each end, and the upright portion 7^b which is similarly fastened to the rim 4, while from this upright portion, the runner support connecting member 7^c is inwardly bent at an angle. In the member 7^c is provided an elongated opening 10 through which a bolt or rivet passes in connecting the runner support 6 to said member 7^c. The brackets 7 and 7' are identical in construction with the exception of the angularity of the member 7^c, which in one case is bent at an obtuse angle and in the other at an acute angle, the necessity for which arises from the fact that the brackets are secured to opposite ends of the table where the curvature of the rim is in reverse directions, as will be apparent by reference to Fig. 1 of the drawings.

To each of the top sections 5 and adjacent each runner support is secured in any suitable manner a runner 11, the respective pairs of runners for said top sections being arranged at opposite sides of the runner supports as shown in Fig. 1, and each of these runners is composed of a pair of angle iron members 11' and 11'', one beneath the other, secured together in spaced relation by means of the vertical plates 12 located at the ends in such a manner as to provide a longitudinal slot 13 extending throughout the length of the runner. Into the slot 13 of each runner project roller bearings 14 mounted upon the shouldered pins 14', extending laterally from the opposite sides of the runner supports 6 as will be understood by reference to Fig. 3, washers 15 being arranged adjacent the rollers at each side of the runner to prevent displacement from between the members 11' and 11'' of the runner 11. The rollers 14 and the washers 15 constitute virtually antifriction devices not only subserving the function of antifriction means intermediate the runners and the runner supports but positively interlocking these parts together to prevent lateral separation of the same when once assembled.

As the top sections 5 of the table are moved away from each other or separated to insert leaves, the runners 6 move on the bearings 14 carried by the runner supports and the rim 4 is provided with slots 16 through which the runners pass, these slots effectively guiding the movement of the top sections in such a manner as to prevent likelihood of binding.

As in my previous applications, I employ means for connecting one top section to the other so that their relative movements will be the same, the movement of one section imparting simultaneous motion in an opposite direction to the other section. Describing this specifically, I provide a flexible chain or cable 17 which is connected at its ends to the runners of each top section, said cable passing around a roller bearing antifriction device 18 mounted at the end of the runner support 6 upon a pin 19 which is inserted laterally in the runner as most clearly shown in Fig. 4 of the drawings. As shown in Fig. 1, two of these cables are employed at each side of the table, one passing around the pulley 18, as before described, while the other is arranged to pass around in the opposite direction a second pulley at the opposite end of the runner support 6. The ends of the cables are secured to a plate 20, or similar member which is fastened by means of rivets or other means to the runner 11 intermediate its length, one plate 20 being disposed near the free end of one of the runners 11 at one side of the runner support 6 while a second plate 20 is similarly connected to the other opposing runner 11. These plates 20 are bulged centrally so as to permit the runner to pass the roller 18 as the top section is moved outwardly into an extended position, this roller 18 necessarily projecting into the elongated slots of the runners. The central portion of each plate 20 is punched outwardly to form a connecting projection 20' in which projection is provided an opening for the purpose of connection of the cables 17. It will be apparent that the plates 20 perform a dual function in that they form the connecting means for the cables as well as support or rigidly hold the intermediate portions of the runners 11 to which they are secured.

The table of my invention is provided with foldable leaves 21 normally disposed beneath the top sections and between the runners 11, these leaves being hinged centrally for this purpose. Each leaf has con-

nected thereto a leaf operating or positioning member 22 of U-shape form, said member 22 being secured to an angle iron bar 23 mounted upon the cross pieces 2 as shown in Fig. 1. Furthermore the central portion 21′ of the U-shaped member is pivotally secured in the bearing plate 24 which is fastened to one section of each foldable leaf. Thus when it is desired to insert an extra leaf one of the top sections 5 is pulled outwardly, simultaneously moving the opposite top section 5 in a similar direction. The hinge portion of the foldable leaf is then pressed downwardly and the operator grasps the free end of the leaf simultaneously pulling this upper half toward him as well as moving the leaf on its connecting member 22. The extremities of the leaf rest upon the rim as shown in dotted lines in Fig. 1, while the member 22 is limited in its pivotal movement by the edge 23′ of the angle support 23 as shown in Fig. 5. The top sections are then shoved together in the usual manner.

It is desirable to provide locking means for the table and to this end I secure to the rim 4 at opposite ends of the table, the lock supporting bars 25 on which are pivotally mounted a locking lever 26. The lower end of the lever is bent to form a handle 27 while its upper extremity is bent laterally in a horizontal plane to form a locking projection 28 and again bent from the vertical plane as shown in Fig. 9. This projection 28 is also beveled on its bottom edge so as to coöperate with the beveled edge of a locking plate 29 which is secured to the top section. To lock the table in any desired position the lever or locking member 26 is pushed upwardly and turned so as to engage the projection 28 over this plate and by reason of the curvature of the projection 28 the top section will be moved slightly inwardly a certain distance which distance is sufficient to enter the dowel pins in their respective recesses. The dowel pins and recesses are not shown as they are of the usual construction and do not form a part of the present invention.

From the foregoing it will be apparent that the several parts employed in my table construction are particularly adapted for assembling purposes and this greatly facilitates the manufacturing of the several parts in an obvious manner.

In Fig. 11 I have shown a slightly modified form of runner support, indicated by the numeral 30, which support is T-shaped in cross section. The bottom flanges 30ª are provided with openings at convenient points throughout the length of the support and screws or like fastening members 31 are employed to secure the support to the cross pieces 2. The particular feature of this form of runner support is that it prevents likelihood of the support yielding to lateral strains and an effective brace is thereby secured. As in the construction hereinbefore described the support is provided with the cable pulley 32 around which the cable 33 passes coöperating with the runners 34 carried by the top sections 5 in the manner set forth.

From the foregoing it will be observed that the extension and equalizing unit comprising as it does a runner support 6 and the slotted runners 11 at opposite sides thereof is virtually a complete mechanism of itself owing to the fact that when its parts are assembled, the antifriction devices 14, 15 form interlocking connections between the runners and the said support. Furthermore the cable or chain 17 connected as it is with each of the runners 11 and connected with the opposite ends of the runner support 6 by passing around the pulleys 18 also forms a main connection to positively hold the parts of the unit together ready for operative application to a table. In fact with the extension and equalizing unit complete the only thing that it is necessary to do in placing the same on a table is to attach the opposite ends of the support 6 to the table at its base or rim, and then fasten each runner 11 to the top section with which it is to be connected, there being no necessity whatever of effecting a connection of any of the parts of the unit.

What I claim and desire to secure by Letters Patent is:

1. In combination with a table comprising a base and extensible top sections, extension and equalizing means comprising a runner support mounted on said base, runners disposed at opposite sides of said support, a continuous equalizing connection mounted wholly upon said runner support and passing through said runners, anti-friction devices disposed in substantially the same plane as said connection and carried by the runner support in engagement with the runners to facilitate the freedom of relative movement of said parts, and means to connect the runners each to one of the top sections of the table.

2. As a new article of manufacture, a metallic attachment unit for extension tables forming a complete extension slide and equalizing mechanism, the same comprising spaced metal runners each adapted to be attached to a sliding top section of a table, a runner support disposed intermediate said runner so that the latter operate in close relation thereto, pulleys journaled upon the runner support adjacent to the ends thereof, a continuous equalizing cable connection passing around said pulleys, rollers mounted on opposite sides of the runner support and operating beside said cable connection, and plates carried by

the metal runners and projecting laterally therefrom and connected with opposite portions of the said cable connection to hold the latter in non-interfering relation with respect to the said rollers during relative movement of the rollers.

3. In combination with a table comprising a base, and extensible top sections mounted thereon, extension and equalizing means consisting of a runner support mounted upon the base, pulleys on opposite ends of said support, an equalizing cable passing around said pulleys and operating longitudinally of the runner support, runners each of which is attached to an adjacent top section of the table and movable therewith, the runner support being disposed between said runners, antifriction devices disposed at opposite sides of the runner support adjacent to its ends, each antifriction device operating in engagement with the runner on the adjacent side of the runner support and establishing an interlocking connection between the runner and said support whereby lateral separation of said parts is prevented, and connections intermediate the said cable and the said runners, the said runners each comprising spaced upper and lower members into the space between which the anti-friction devices project and operate.

4. In combination with a table comprising a base, and extensible top sections mounted thereon, extension and equalizing means consisting of a runner support mounted upon the base, pulleys on opposite ends of said support, an equalizing cable passing around said pulleys, runners each of which is attached to an adjacent top section of the table and movable therewith, the runner support being disposed between said runners, antifriction devices disposed at opposite sides of the runner support adjacent to its ends, each antifriction device operating in engagement with the runner on the adjacent side of the runner support and establishing an interlocking connection between the runner and said support whereby lateral separation of said parts is prevented, and connections intermediate the said cable and the said runners, the said runners each comprising spaced upper and lower members into the space between which the pulleys project and operate, the connection between the runners and the cable comprising plates forming bracing connectors between the upper and lower members of the runners, and said plates being bulged outwardly at their body portions to form a clearance space for the antifriction devices above mentioned.

5. As a new article of manufacture, an extension and equalizing unit susceptible of bodily attachment to an extension dining table and comprising a runner support, pulleys mounted at opposite ends of said support, an equalizing cable passing around said pulleys, runners at opposite sides of the runner support, each runner comprising spaced upper and lower members into the space between which the adjacent pulley on the runner support projects and operates, end members connecting the upper and lower members of each runner together, antifriction devices at opposite sides of the runner support adjacent to the end thereof and constructed so as to establish interlocking connection between the runners and the runner support, said antifriction devices operating in the space between the upper and lower members of the runners and one of said devices being engageable by one of the end members of the runners to limit the movement of the runner relative to the runner support, and a plate connecting the upper and lower members of each runner together intermediate their ends and having means to connect said runner with the portion of the cable adjacent thereto.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE STEINGRUBER.

Witnesses:
A. H. Conn,
H. F. B. Higdons.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."