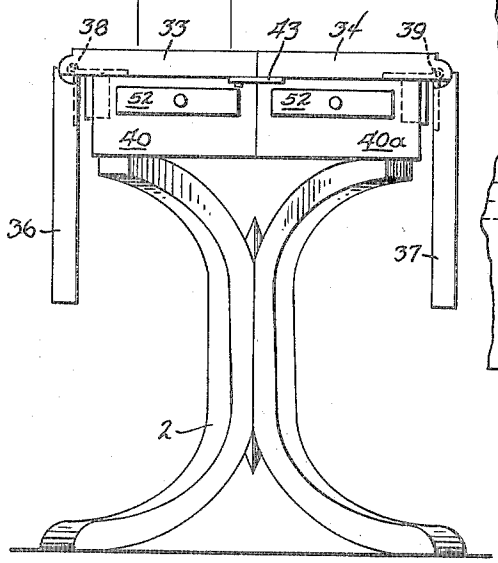
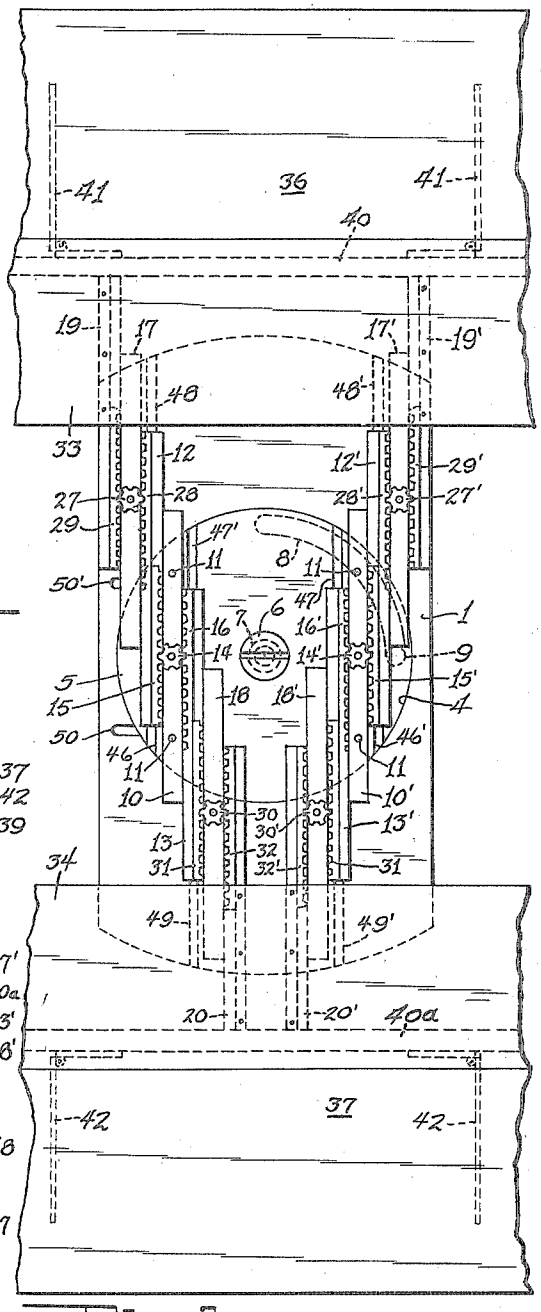
Jan. 16, 1940. W. M. HYLAND 2,187,423

DROP LEAF EXTENSION TABLE

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Fig. 1.





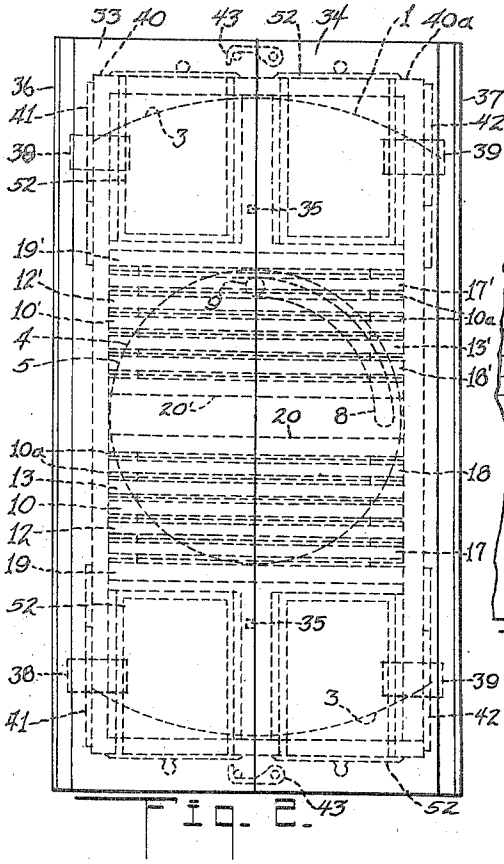


Fig. 2.

Fig. 3.

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DROP LEAF EXTENSION TABLE

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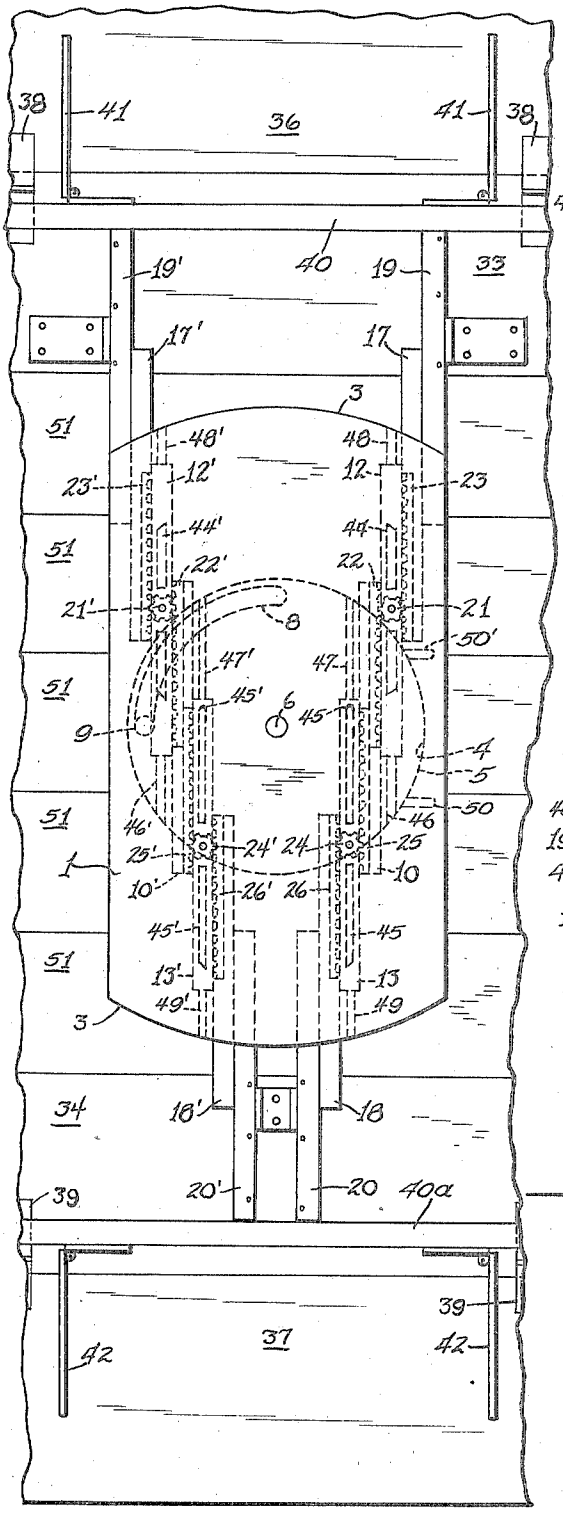
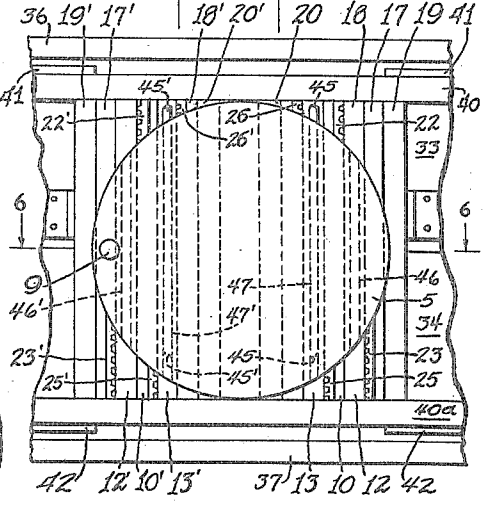


Fig. 5.



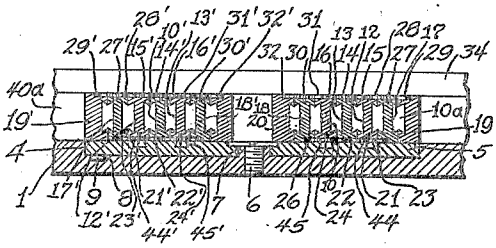


Fig. 6.

Fig. 4.

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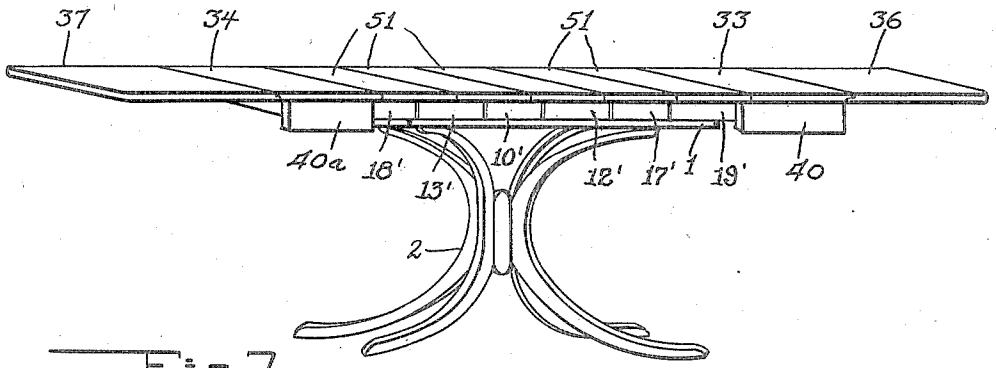


Fig. 7.

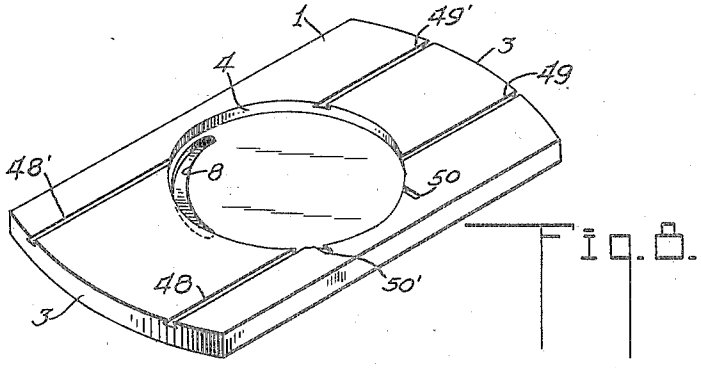


Fig. 8.

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UNITED STATES PATENT OFFICE

2,187,423

DROP LEAF EXTENSION TABLE

William M. Hyland, Flint, Mich.

Application October 17, 1938, Serial No. 235,305

12 Claims. (Cl. 311—42)

My invention relates to improvements in a drop leaf extension table, and it consists of the combinations, constructions and arrangements hereinafter described and claimed.

An object of my invention is to provide a drop leaf extension table in which an elongated platform is supported by a base and carries a turntable that is adapted to be swung through an arc of 90°. Two groups of extension slides are secured to the turntable and are adapted to be keyed to the platform when the table top is opened or closed. This keying of the slides to the platform prevents rotation of the turntable, slides and table top with respect to the platform when the table top is extended or closed and it also secures the table top to the platform so that a lifting of the table top will lift the platform and supporting base therewith as a unit. The movable end sections of the table top are connected to the slides of each group. Drop leaves are hinged to the movable end sections of the table top and when these are raised, they will double the area of the table top even though the top is not extended. The slides that permit the table top sections to be opened, carry racks and gears that control the opening and closing movement so that a movement of one side of the table into open or closed position will automatically move the other side. This permits one person to open or close the table and the top sections will always be balanced on the platform and base.

The extension mechanism supports only the extensible ends of the table top and it is therefore possible to swing the drop leaves into inoperative position if desired, when the table top is extended. The slides extend transversely to the platform when the table is closed and parallel to the length of the platform when the table is swung into a position ready for opening.

Other objects and advantages will appear in the following specification, and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings forming a part of this application, in which

Figure 1 is an end elevation of the table shown in closed position;

Figure 2 is a top plan view of Figure 1;

Figure 3 shows the table top swung through an angle of 90° and partially opened;

Figure 4 is a bottom plan view of Figure 3 showing the top fully extended;

Figure 5 is a view similar to Figure 4, but showing the top closed and the platform omitted;

Figure 6 is a section along the line 6—6 of Figure 5;

Figure 7 is a perspective view of the table extended; and Figure 8 is an isometric view of the platform.

In carrying out my invention, I provide a table with an elongated platform 1 supported by a pedestal or leg base 2. The platform may be made of any material desired, preferably wood, and Figure 4 shows the platform as being elongated and provided with curved ends 3. I do not wish to be confined to the particular type of supporting legs shown at 2, in Figure 1, since any type of support for the platform may be used. The platform has a circular recess 4 formed therein and a turn table 5 is rotatably mounted in the recess. Figure 6 shows a screw 6 for rotatably connecting the turn table with the platform. A sleeve 7 receives the screw shank and the head of the screw is tightened down against the end of the sleeve. The sleeve is of a length that will permit the free rotation of the turn table 5 in the recess 4 even though the screw is tightened in place.

In Figures 3 and 4, I show an arcuate slot 8 formed in the bottom of the recess 4 and extending through an arc of 90°. A pin 9 is carried by the turn table 5 and is slidably received in the arc. When the table is in closed position, the pin 9 will be at the end of the arc shown in Figure 2. Before the table can be completely opened, the table top must be partially opened and then rotated in a clockwise direction until the pin 9 abuts the other end of the slot as shown in Figure 3. This will be described in detail hereinafter.

The upper surface of the turn table lies flush with the upper surface of the platform for a purpose now to be described. A plurality of extension slides are arranged in two groups and are carried by the turn table and the center slides 10 and 10' in each group are rigidly connected to the turn table top by screws 11 or other suitable fastening means. Slides 12 and 13 in one group are mounted on each side of the slide 10 and are slidably keyed thereto by dovetail slots and keys in the manner shown in Figure 6. Slides 12' and 13' of the other group are in like manner slidably keyed to the slide 10'. In Figure 3, I show the slides 10 and 10' carrying gears 14 and 14' and these gears mesh with racks carried by the adjacent slides. The slides 12 and 13 carry racks 15 and 16 that mesh

with the gear 14 and the slides 12' and 13' carry racks 15' and 16' that mesh with the gear 14'.

The slides 12 and 13 have extension slides 17 and 18 slidably keyed thereto and the extension slides in turn carry end slides 19 and 20 which are slidably keyed thereto. The same is true with the extension slides 17' and 18' and end slides 19' and 20'. In Figure 4, I show the underside of the slides and illustrate how the slides 10 and 17 are connected to the slide 12 by a gear 21 carried by the underside of the slide 12 and meshing with racks 22 and 23 carried by the undersides of the slides 10 and 17 respectively. In like manner, I show how the slides 10 and 18 are connected together by a gear 24 that is carried by the slide 13 and this gear meshes with racks 25 and 26 carried by the undersides of the slides 10 and 18 respectively. Referring again to Figure 3, it will be noted that the slides 12 and 19 are operatively connected together by a gear 27 carried by the slide 17 and meshing with racks 28 and 29 carried by the uppersides of the slides 12 and 19 respectively. The slides 13 and 20 are likewise connected together by a gear 30 carried by the uppersides of the slide 18 and meshing with racks 31 and 32, carried by the uppersides of the slides 13 and 20 respectively. Corresponding reference numerals are given to the other group of gears and racks and these reference numerals are primed in order to distinguish between the two groups.

The end slides 19, 19', 20 and 20' carry table top sections 33 and 34. When the table top is closed, the sections 33 and 34 abut each other and pins 35, see Figure 2, carried by the section 34 enter recesses in the section 33. Drop leaves 36 and 37 are hinged at 38 and 39, see Figure 1, to the sections 33 and 34. When the table is closed, the leaves 36 and 37 may extend downwardly as shown in Figure 1. An apron is carried by the sections 33 and 34 and encloses the slide mechanism. This apron is composed of two U-shaped parts 40 and 40*a* and these parts are spaced from each other when the table top is extended. The apron part 40 carries arms 41 that are swingable about vertical axes and when swung into the extended position shown in Figure 3, will support the drop leaf 36 in a horizontal position. In like manner, the apron part 40*a* carries arms 42 that swing about vertical axes and these arms support the drop leaf 37 in a horizontal position. The table top sections 33 and 34 may be secured together by hooks 43 or any other suitable fastening means, see Figure 2.

I provide novel means for locking the table top against rotation when the top is in closed position and also for locking it against rotation when in open position. The slides 12 and 13 are provided with dove-tail keys 44 and 45 on their under surfaces and these keys are receivable in keyways 46 and 47 in the upper surface of the turn table 5. When the turn table is in the position for permitting the table top to be extended, the keyway 46 aligns with a keyway 48 in the platform 1 and the keyway 47 aligns with a keyway 49. The movement of the slides as the table top is extended will cause the keys 44 and 45 to enter the keyways 48 and 49 and in this way the slides will be anchored to the platform and will prevent relative rotation between the table top and the platform. The other group of slides are provided with keys and keyways and corresponding reference numerals are applied and primed so as to distinguish from the first group.

In Figure 5, I show the keys 45 and 45' extending beyond the turn table 5 when the table top sections 33 and 34 are moved into abutting relation. In Figure 3, I show recesses 50 and 50' for receiving the projecting portions of the keys 45 and 45' when the table top sections are fully closed. This will prevent the rotation of the table top with respect to the platform when the table is closed. The keys 45 and 45' are so arranged that they will permit the table top sections to be only partially opened before they will abut the periphery of the recess 4. This initial opening movement, however, is sufficient to remove the keys from the locking recesses. The other ends of the keys 45 and 45' when striking the peripheral wall of the recess 4 will prevent further opening of the table top sections until the turn-table is swung through an arc of 90°. This rotation will bring the keys 45 and 45' into registration with the keyways 49 and 49', whereupon the table top may be opened to the desired extent, the keys sliding in the keyways, thereby interlocking the turntable 5 and the extensible slides to the platform 1.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

The table when closed as shown in Figure 1, will occupy very little space. All of the slides will be concealed by the top sections 33 and 34 and the apron parts 40 and 40*a*, and therefore the table resembles a small drop leaf table in appearance. The table top may be doubled in size when the drop leaves 36 and 37 are raised into a horizontal position and supported by the arms 41 and 42. If it is desired, to enlarge the table top still further, the hooks 43 are released and then the table top is partially opened by moving the sections 33 and 34 slightly apart. This movement will free the keys 45 and 45' from the recesses 50 and 50' in the manner already set forth and then the table top may be swung through an arc of 90° and will turn the slides and the turn table therewith. When the slides are parallel with the longitudinal axis of the platform 1, they may be extended and their keys will be received in the keyways 48, 48', 49 and 49'. Additional leaves 51 may now be placed between the table top sections 33 and 34 and will rest upon the slides. Each leaf may carry projections in one edge receivable in recesses in the adjacent leaf edge in the customary manner, none being shown. The table top cannot be rotated when extended. The slides extend only to a point where they will support the sections 33 and 34 and therefore they will not interfere with the raising and lowering of the drop leaves, regardless of whether the table is closed or extended. If desired, drawer compartments 52 may be placed at the ends of the table sections 33 and 34, see Figure 2. The drawer compartments are carried by the apron 40 and 40*a* and are disposed above the platform 1. Napkins and silverware may be placed in the drawers, if desired. It will be noted from Figure 4 that the keys 44 and 45 are broken away to receive the gears 21 and 24. The dove-tail shape of the keys not only locks the table top against rotation, but anchors the top to the platform so that the table may be lifted and moved by raising the top without the entire load being carried by the central screw. The greater length of the platform will parallel the greater length of the table top when opened and this will provide an additional support for the table top

when fully extended. In addition, the gears and racks equalize the opening and closing of the two table top sections and there will be a proper balancing of the top on the platform at all times.

The arms 41 and 42 when not extended to support the drop leaves 36 and 37 lie parallel to the sides of the apron sections 40 and 40a as shown in Figures 1 and 2. Sufficient space is provided between the leaves 36 and 37 when hanging downwardly from the sections 33 and 34, and the apron to receive the arms. The manner of slidably keying the slides together as shown in Figure 6 is of standard practice and therefore needs no detailed description. The keys 43a connecting the slides together are in the form of double dove-tails. Two keys are used to connect adjacent slides, one key being secured to each slide. The keys will therefore act as stops when the slides are fully extended and will permit the slides to open only to the desired extent.

In the drawings I have shown the top of the turn table lying flush with the top of the platform base. It is possible to position the top surface of the turn table above or below the top of the platform. The novel feature of the invention is to cause one or more keys affixed to the undersurface of the slides to enter one or more grooves in the platform when the slides are extended and thus lock the table top, slides, and turn table against rotation. The platform could carry ridges receivable in grooves in the slides if desired. Although I have shown a turn table in the form of a disc, any means for rotatably securing the slides to the platform will constitute a turn table in the broad sense. The keys on certain slides not only pass into grooves in the platform when the slides are extended or when they are closed, but the keys are dove-tail in shape and will secure the slides to the platform. In this way, the table top, slides, turn table and platform are locked together into one immovable unit when the table top is closed or opened and this will permit the table to be handled and transported as a single unit without the risk of breakage of the assembled parts or without the chance of these parts becoming displaced. It is obvious that a T-shaped key or other type of locking the slides to the turn table and platform may be used.

While I have shown only the preferred form of my invention, it should be understood that various changes or modifications may be made within the scope of the appended claims without departing from the spirit of the invention.

I claim:

1. An extension table comprising an elongated platform, a turn table carried thereby and having its upper surface lying flush with the top of the platform, slides carried by the turn table, certain of said slides having keys on their undersurfaces, said turn table having keyways for slidably receiving the keys, said platform having keyways extending in the direction of the length of the platform and aligned with the turn table keyways when the turn table is rotated into a predetermined position, whereby the slides may be extended when parallel with the elongated sides thereof, and table top sections carried by the slides, the slides connecting the sections together.

2. An extension table comprising an elongated platform, a turn table carried thereby and having pairs of keyways, slides carried by the turn table, certain of said slides having keys slidable in the keyways, said platform having key receiving recesses extending at right angles to the length thereof and key receiving keyways extending parallel with the length thereof, two table top sections carried by the slides and designed to abut each other when the table top is closed and the sections extend parallel with the length of the platform, said keys entering the recesses when the sections are closed whereby the sections, slides and turn table are locked against rotation, said keys also being receivable in the platform keyways when the keys are retracted from the recesses and the turn table is rotated to align the keys with the platform keyways, said slides being extensible to separate the sections and the keys sliding in the platform keyways and locking the turn table from rotating.

3. In an extension table, a platform, extensible interconnected slides rotatably carried by the platform, at least one of said slides carrying a key, said platform having a keyway for receiving the key when the slides are extended, whereby the slides will be locked against rotation on the platform when the slides are extended.

4. An extension table comprising an elongated platform, slides rotatably carried thereby, at least one of said slides having a key, said platform having a key-receiving recess extending at right angles to the length thereof and a keyway extending parallel with the length thereof, table top sections carried by the slides, said key being received in said recess when the table top sections abut each other, and being received in the keyway when the slides are extended, whereby the slides and table top sections will be held against rotation on the platform when the slides are extended and when the slides are closed.

5. In a device of the type described, a platform, extensible interconnected slides rotatably carried thereby, table top sections carried by the slides, said slides and table top sections rotating as a unit on the platform, and means for limiting the rotation of the slides to an arc of 90°.

6. In an extensible table, a platform, extensible slides rotatably carried by the platform, cooperating means carried by the slides and platform for locking the slides against rotation on the platform when the slides are extended, and table top sections carried by the slides and being interconnected therewith, the locking of the slides to the platform making a unitary structure of the sections, slides and platform.

7. An extension table comprising an elongated platform, a turntable carried thereby and having keyways therein, two groups of slides each having their center slides secured to the turntable, certain of said slides having keys slidable in the keyways, table top sections supported by the slides and being movable from closed to open position, said sections lying parallel with the length of the platform when the table top is closed, said table top sections, slides and turntable being swingable through 90° to dispose the slides parallel with the length of the platform, said platform having keyways therein aligned with the turntable keyways when the turntable is in a proper position for extending the slides, said platform keyways receiving the slide keys when the slides are extended, whereby the turntable, slides and table top sections are held against rotational movement with respect to the platform and are also secured against being lifted from the platform when the table is raised by the top sections.

8. In an extension table, a platform, a turntable rotatably carried thereby, slides carried by the turntable, said platform and slides having

cooperating means for slidably securing certain of said slides to the platform when the turntable is in one position and the slides are closed and when the turntable is in another position and the slides are opened, said means securing the platform, turntable, and slides together as a unitary structure when the parts are in either of these two positions, the turntable and slides also being held against rotative movement.

9. A table of the character described including an elongated horizontal platform mounted on a vertical support, a turntable secured to said platform and being swingable through an arc of 90°, slides carried by the turntable, and separable table top sections secured to certain of the slides, the slides being slidably secured to the platform when the table top sections are closed or opened in such a manner that when the table top sections are separated from each other, they will still be supported by and connected to the platform by the slides.

10. An extensible drop leaf table including two groups of leaves, each group comprising a main leaf and a drop leaf, the main leaves meeting at a center line of the table, a platform underlying the centers of said main leaves, a turntable rotatably mounted on the platform and having a free rotating movement of 90°, slides secured to the turntable and to the main leaves, whereby the leaves may be turned from a lengthwise position on the platform to a transverse position, and cooperating means between the slides and the platform for slidably securing the slides to the platform when the leaves are separated at their center line, said means also preventing rotation between the slides and the platform when the slides extend beyond the turntable.

11. An extension table comprising an elongated platform, a turntable carried thereby and limited to a rotative movement of 90°, table slides secured to the turntable and carrying equalizing means for causing the slides to uniformly open and close, table top sections secured to the end slides and lying parallel with the length of the platform when the table is closed, cooperating locking means carried by the slides and platform for preventing rotation of the turntable, slides and table top sections when the table is closed, and for securing the slides against vertical movement with respect to the platform, means cooperating with a part of the locking means, whereupon the turntable, slides and table top sections may be rotated as a unit through 90° to position the slides parallel with the length of the platform, said cooperating locking means now permitting the table top sections to be opened to any desired extent up to the limit of opening movement, said cooperating locking means now preventing rotation of the turntable, slides and table top sections with respect to the platform and securing the slides against vertical movement with respect to the platform.

12. An extension table comprising an elongated platform, a turntable rotatably carried thereby, slides carried by the turntable and revolving therewith, means interconnecting the slide and turntable against relative circumferential movement, said turntable being adapted to swing with the slides either into a transverse position of the slides in respect to the platform when the table is closed, or into parallelism with the length of the platform when the table is open, and table top sections extending transversely to and being carried by the slides.

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