April 3, 1956 B. F. HAMILTON 2,740,680

LEAF-HOLDING MEANS FOR DROP-LEAF TABLES

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Fig. 2.

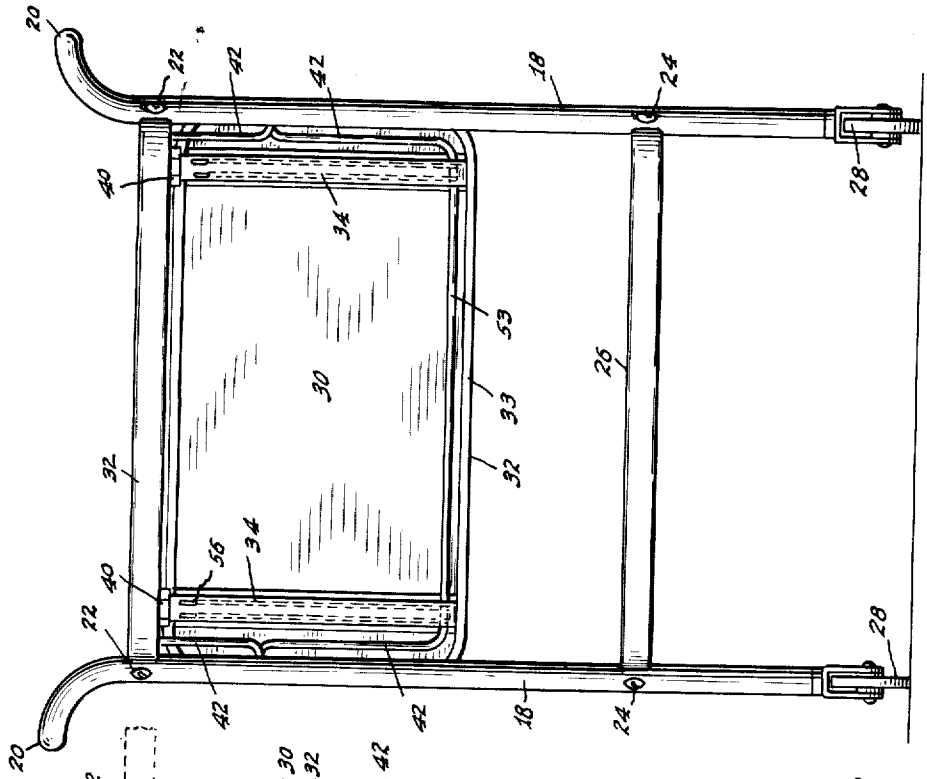
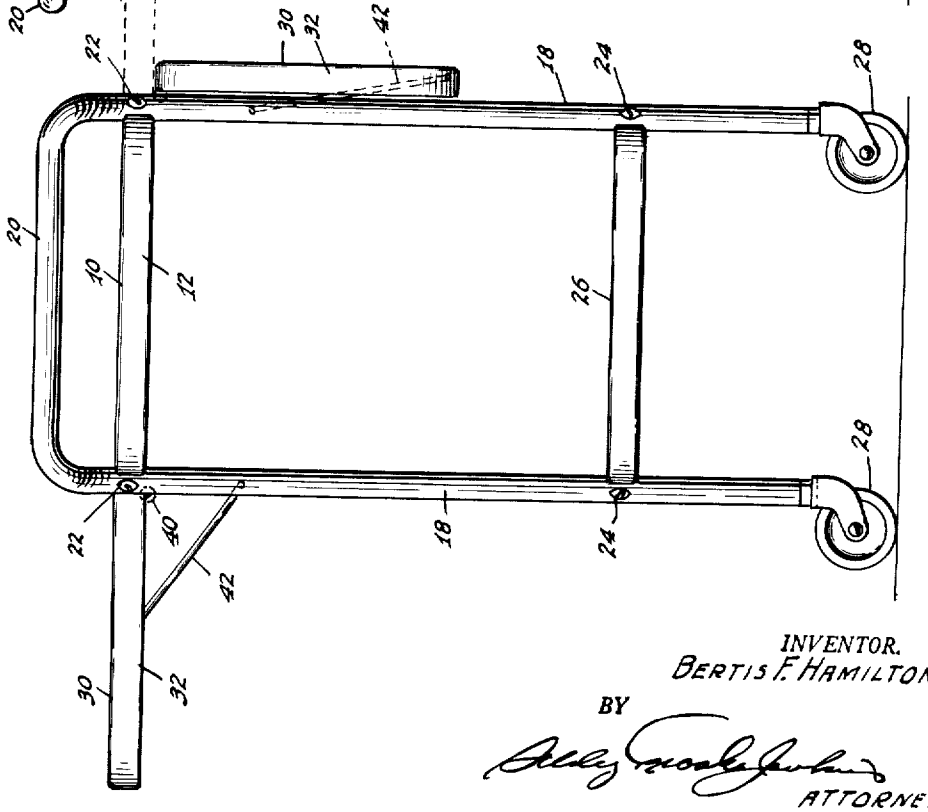


Fig. 1.



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Fig. 3.

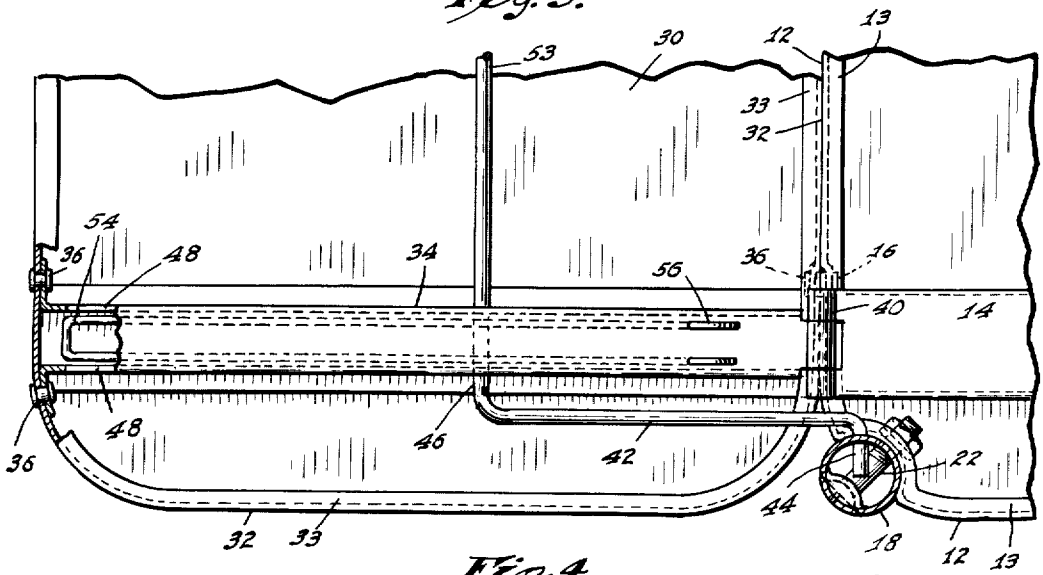
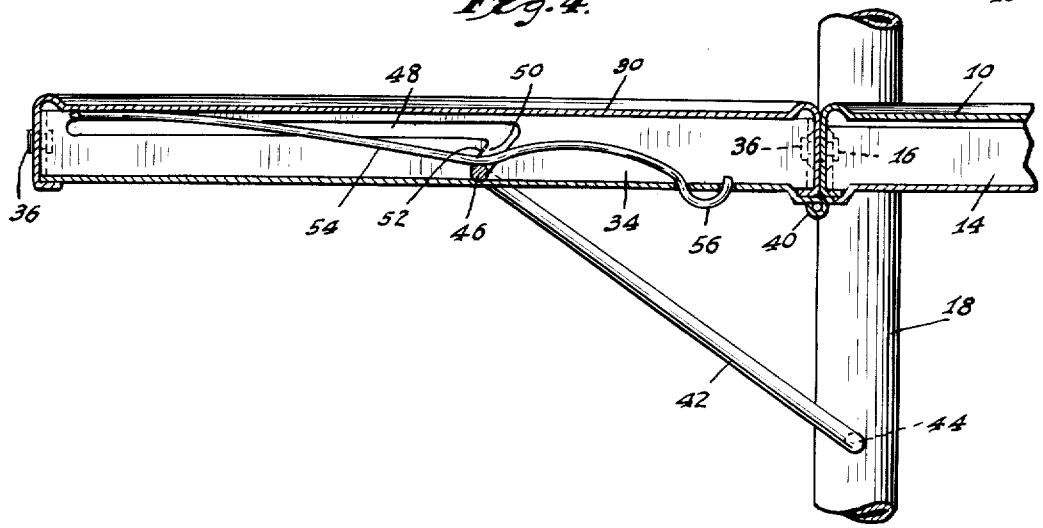


Fig. 4.



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LEAF-HOLDING MEANS FOR DROP-LEAF TABLES

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6 Claims. (Cl. 311—65)

This invention relates to drop-leaf tables, and has for its object the provision of such a table which can be simply and economically manufactured, which will have an attractive appearance, and whose leaves will be sturdy and rigid when extended into horizontal position. Other objects will be apparent as the description is understood.

In carrying out my invention in its preferred embodiment, I provide the table with a sheet-metal top having a down turned peripheral flange. A pair of channel members are secured against the lower surface of the top, parallel to the direction of table extension. The legs for the table are formed in side pairs, conveniently of metal tubing, each pair having the general shape of an inverted U whose intermediate portion is additionally useful as a push-bar for the table. The legs are secured to the table top and to a bracing ring or shelf vertically spaced therefrom.

The drop-leaves are of the same general construction as the table top, and are rotatively attached thereto by hinges whose interengaging portions are carried respectively by the aligned channel members of the table top and of the drop leaves. The leaves are braced by an arm having one end rotatively supported by the leg at a point spaced below the hinge and the other end riding in an elongated slot of the drop leaf channel member. At the inner end of the slot, the slot is formed with a portion inclined downwardly and outwardly so that the upper edge of the slot extension serves as a sturdy abutment against which the brace arm may bear to hold the drop leaf at its elevated position. Desirably, the brace-arms at both sides of each drop-leaf are made from a continuous lengtth of stock. Springs carried by the channel members of the drop-leaves help urge the brace-arms into the slot extensions and hold the brace-arms therein.

The accompanying drawings illustrate my invention:

Fig. 1 is a side elevation of a table embodying my invention;

Fig. 2 is an end elevation of the table shown in Fig. 1;

Fig. 3 is a fragmental plan view of the under side of such a table, showing the means for holding the drop-leaf in elevated position; and

Fig. 4 is a vertical longitudinal section of the detail shown in Fig. 3.

The table shown in the drawings comprises a top 10, of generally rectangular shape, having at its edges a downwardly extending peripheral flange 12 whose bottom is turned inwardly to form a stiffening rim 13. Desirably, the top and its flange are formed as a one-piece metal stamping. Extending longitudinally of the table and beneath the top are a pair of spaced reinforcing members 14 of channel cross-section having the ends of their flanges turned outwardly and secured to the flange 12 as by means of rivets 16.

Table legs 18, conveniently of metal tubing, are formed in pairs, the legs of each pair desirably being formed from a continuous length of stock bent into an inverted U-shape, with the intermediate stretch 20 of such stock both stiffening the table and serving as a push-bar for the table. Each pair of legs is secured to a side of the table as by a bolt 22 passing through each leg 18 and the table-top flange 12. Vertically spaced from the top 10, the legs are joined as by bolts 24 to a bracing ring or shelf 26. Desirably a caster 28 is provided for each leg.

Each drop-leaf 30 is of the same general construction as the table top above described, having a peripheral flange 32 with an in-turned rim 33, and channel members 34 longitudinally aligned with the table channels 14 and secured to the drop-leaf as by rivets 36. As shown, hinge means 40 whose interdigitating portions are formed from integral extensions of the webs of the channel members 14 and 34 pivotally connect the inner end of each leaf 30 to the table top 10.

Since both drop-leaves are desirably similar and since the brace means associated with the several legs are desirably the same, I shall describe the means for supporting only one leaf from one leg.

A swingable brace arm 42 for the drop leaf 30 is rotatably supported by the leg 18, at a point spaced downwardly from the hinge means 40. Such support is conveniently obtained by providing the brace arms at its lower end with a horizontal finger 44 which extends into an opening provided in the leg, thus providing a horizontal brace-arm axis perpendicular to the direction of table-extension. The upper end of the brace arm 42 is similarly provided with a horizontal finger 46 which rides in a longitudinal slot 48 provided in the drop-leaf channel 34, the slot 48 being of sufficient length and so located longitudinally that it will accommodate the brace-arm finger 46 throughout the entire swinging movement of the brace arm.

At its inner end, the slot 48 is provided with an oblique extension 50 directed downwardly and outwardly, and the edge 52 of the channel wall 34 which defines the upper and outer edge of such slot extension serves as a sturdy abutment against which the brace-arm finger 46 may bear to hold the drop-leaf at its elevated position. Desirably, the downward and outward disposition of this slot-extension 50 is such that when the drop-leaf is in its horizontal position, the abutment 52 is substantially perpendicular to an imaginary line drawn between such abutment and the lower brace-finger 44; with the brace-arm 42 formed as a straight link as shown, the abutment is substantially perpendicular to the brace itself.

To eliminate movement of the brace-arms other than in a vertical plane, and for rigidity and ease of assembly, the brace arms at both sides of each drop-leaf are desirably parts of an integral U-shaped yoke the parallel legs of which constitute the brace-arms 42 and the intermediate leg 53 of which provides the fingers 46.

A spring 54 is carried by the drop-leaf to insure entrance of the yoke into the slot extension, take up lost-motion caused by manufacturing tolerances and wear, and insure that the yoke will remain in the slot extension until it is desired that the drop-leaf be lowered. As shown, such spring 54 is carried within the drop-leaf channel 34 in such a manner that it extends longitudinally thereof, and lies low enough therein and at such a slope that it yieldingly both urges the yoke into the slot extension 50 as above described and in addition continuously bears against the yoke in any position of such yoke for a distance outwardly from such slot extension. This extended spring engagement thereby obtained gives, without undue resistance to drop-leaf elevation, a snap-like latching effect as the drop-leaf is elevated into horizontal position. Conveniently, the spring 54 is formed of spring wire bent back on itself in a deep U-shape, to provide two parallel legs formed at their inner ends with aligned, circular arc portions 56 which are threaded

through holes in the web of the drop-leaf channel member **34**.

In elevation, each spring is so formed that with its closed or free end in contact with the under surface of the leaf **30** it will extend obliquely across the slot **48** and, at the slot-extension **50**, attain a position such that it will resiliently force the yoke against the end of such slot-extension. Desirably, there is one of the springs **54** in each of the leaf-channels **34**.

To bring a drop leaf of such a table into extended position, the user need only grasp the leaf and swing it upwardly into horizontal position. During such movement, the yoke-portion **46** rides relatively inward on the lower edges of the slots **48**, and in so doing stresses the springs **54** to store energy therein. As the leaf becomes horizontal, the yoke overlies the slot extensions **50**, and the springs **54** snap it into those slot extensions to firmly hold the leaf in its elevated position. When it is desired to lower the leaf, the user needs only to pull the yoke-legs **42** upwardly to lift the yoke out of the slot extensions **50** and clear of the abutments **52**; whereupon the leaf will drop to its vertical, retracted position. The disposition of the axis of each hinge **40** relative to the opposed faces of the top and leaf flanges resiliently stresses the top and leaf when the leaf is extended and causes the leaf to be urged downwardly to the limit permitted by the brace yoke, thus taking up lost motion and preventing rattling.

I claim as my invention:

1. A drop-leaf table, comprising a sheet-metal table top and a drop-leaf, each of which has a depending peripheral flange, longitudinal surface-reinforcing members carried by both said table top and said drop-leaf, hinge means formed by interdigitating integral extensions of said longitudinal members, legs supporting said table top above the floor, a leg-supported brace for holding said drop-leaf in elevated position, the longitudinal member of said drop-leaf having a substantially horizontal ledge portion for guiding said brace therealong during movement of said drop-leaf toward horizontal position, said longitudinal member at and from the inner end of said ledge being provided with an abutment extending therefrom and having an outward and downward slope.

2. A drop-leaf construction for a table having supporting legs, comprising a leg-supported brace for holding said drop-leaf in elevated position, a longitudinal member carried by and beneath said drop-leaf and having a substantially horizontal ledge portion for guiding said brace therealong during movement of said drop-leaf toward horizontal position, said longitudinal member at and from the inner end of said ledge being provided with an abutment extending outwardly and downwardly and against which abutment said brace may bear to hold said drop-leaf in elevated position, said table and drop-leaf having resiliently deformable means engageable upon the drop-leaf being swung upwardly into extended position, thereby to urge more firm engagement of said brace and said abutment, and hinge means for pivotally attaching said drop leaf to said table, the axis of said hinge means being so located with respect to said resilient means that stress is imparted to said resilient means upon swinging said drop-leaf into extended position.

3. The invention set forth in claim 2 in which one of said drop-leaf and said table comprises a metal sheet provided with a depending peripheral flange, said resilient means comprising a portion of said flange.

4. The invention set forth in claim 2 wherein each of the table and the drop-leaf comprises a metal sheet provided with a depending peripheral flange, said resilient means comprising portions of said drop-leaf and table flanges juxtaposed when said drop-leaf is extended.

5. A drop-leaf table comprising a sheet-metal top and a sheet-metal drop-leaf having resilient depending peripheral flanges at their adjacent sides, hinge means pivotally interconnecting said top and leaf and so located with respect to the flanges that the latter interengage before the leaf, in upward swinging, attains coplanar relationship with the top, and releasable means for retaining the top and leaf in coplanar relationship.

6. A drop-leaf table, comprising a table top, supporting legs therefor, a drop-leaf having a longitudinal leaf-stiffening sheet-metal member thereunder parallel to the direction of table extension, hinge means for pivotally attaching said drop-leaf to said table, the material of said longitudinal member being formed at one end to provide an eye constituting part of said hinge means, a leg-supporting brace member for supporting said leaf and formed to provide a finger which rides in an elongated longitudinal slot provided in said longitudinal member, said longitudinal member being formed to provide at the inner end of said slot a laterally projecting slot-extension having an outer wall which slopes outwardly and downwardly and constitutes abutment means against which said brace-member finger may bear for holding said drop-leaf in horizontal position.

References Cited in the file of this patent

UNITED STATES PATENTS

188,414	Rohde	Mar. 13, 1877
298,967	Goold	May 20, 1884
2,131,594	Miller	Sept. 27, 1938
2,572,474	Hamilton	Oct. 23, 1951
2,578,922	Cramer	Dec. 18, 1951
2,594,262	Howe	Apr. 22, 1952

FOREIGN PATENTS

96,664	Sweden	Aug. 29, 1939