EXPANDABLE AND COLLAPSIBLE TABLES AND RELATED METHODS

ABSTRACT
A table comprises a base support including a base table leaf having a generally planar base table leaf surface, and at least one main table leaf movably carried by the base support. Each main table leaf is movable between a retracted position and an expanded position in which the respective main table leaf surface is generally coplanar with and in registration with the base table leaf surface. The table further comprises at least one extension table leaf. Each extension table leaf is slidably carried by a respective main table leaf to be slidably movable between a nested position and an extended position. The extension table leaf surface is substantially parallel to the main table leaf surface in both the nested position and the extended position. End supports are pivotally carried by the at least one main table leaf, and are pivotable between a stowed position and a support position.
EXPANDABLE AND COLLAPSIBLE TABLES AND RELATED METHODS

TECHNICAL FIELD

[0001] The present disclosure relates to tables, and more particularly to expandable and collapsible tables and related methods.

BACKGROUND

[0002] There is a long history of efforts to provide tables that can be folded or collapsed into a smaller size for storage.
[0003] U.S. Pat. No. 1,063,642 teaches a four leaf foldable table comprising two proximal (inner) leaves that are foldably mounted to one another and two distal (extension) leaves each slidably received by a respective proximal leaf. A pair of foldable legs is secured to each of the extension leaves.
[0004] Taiwan Patent Document No. M280704 teaches a number of different folding tables, including a table comprising two proximal (inner) leaves foldably secured to one another with a pair of foldable central legs secured to one of the proximal leaves, and a pair of distal (outer) table leaves.
[0005] Chinese Patent Document No. 21359196Y shows a foldable table comprising a small central table leaf carried by an upstanding central support, with two main table leaves hingedly mounted to either side of the central leaf. The leaves are supported by an outer support structure that is pivotally mounted to the central support so that it can swing outwardly away from the central support to support the leaves when the table is opened, and swing inwardly to nest within the central support to allow the table to be collapsed. In the collapsed position, the main leaves depend vertically from the central leaf with the central support and collapsed outer support structure disposed between the main leaves.
[0006] Canadian Patent No. 240,208 teaches a folding table comprising two main leaves which carry outer legs, and a smaller central leaf to which the main leaves are hingedly mounted. The supports for the legs are pivotally mounted only to the legs and fold flush into a recess on the respective leg when the table is collapsed. The central leaf carries a pivoting brace that cooperates with opposed detents on the main leaves to lock the table in the open position.
[0007] U.S. Pat. No. 1,287,444 describes a two-leaf folding table which, when folded, provides a compartment for storing a case containing dishes, cutlery and the like.
[0008] U.S. Pat. No. 7,174,838 teaches a two-leaf hinged table which folds at the middle, with pairs of end legs that fold down to enable the table to be collapsed.
[0009] Great Britain Patent Application No. 2,298,782 describes a two-leaf hinged table which folds at the middle, with legs that fold longitudinally along their length and then fold down.
[0010] U.S. Pat. No. 1,549,979 teaches a two-leaf folding table with folding legs. The table has two open configurations (in addition to the fully folded configuration). The first open configuration is the standard table configuration in which the leaves are parallel to one another, and the second open configuration is one in which the leaves are at a right angle, with the legs extended, to form a half-size table.
[0011] U.S. Pat. No. 5,326,461 teaches a two-leaf folding table with a leg and support structure configured to collapse automatically when the table leaves are folded together.
[0012] Taiwan Patent Document No. 292321 and Chinese Patent Document No. 201131458Y teach a small folding table of two-leaf, hinged design which also includes slide-out members that function as cup holders when the table is open and as a handle when the table is closed.
[0013] Chinese Patent Document No. 201067186Y discloses a two-leaf folding table in which the leaves each have a single leg in the form of a ribbed plate that is only slightly narrower than the leaf.

SUMMARY

[0015] The tables described herein can be placed in a fully collapsed configuration for storage, and can be placed in a variety of different configurations to provide table surfaces of various sizes. Advantageously, in certain embodiments the table surfaces can all be made substantially coplanar.
[0016] A table comprises a base support and at least one main table leaf movably carried by the base support. The base support includes a base table leaf having a generally planar base table leaf surface. Each main table leaf defines a respective generally planar main table leaf surface, and each main table leaf is movable between a retracted position and an expanded position in which the respective main table leaf surface is generally coplanar with and in registration with the base table leaf surface. The table further comprises at least one extension table leaf, with each extension table leaf defining a respective generally planar extension table leaf surface.

Each extension table leaf is slidably carried by a respective main table leaf, and is slidably movable between a nested position in which the respective extension table leaf nests in the respective main table leaf and an extended position wherein the extension table leaf extends beyond the respective main table leaf. The extension table leaf surface of each extension table leaf is substantially parallel to the main table leaf surface of the respective main table leaf in both the nested position and the extended position. End supports are pivotally carried by at least one main table leaf, and are pivotally between a stowed position in which the end supports are generally parallel to the main table leaf surface of their respective main table leaf to nest within the respective main table leaf when the extension table leaf is in the nested position, and a support position in which the end supports are generally perpendicular to the main table leaf surface of their respective main table leaf for supporting the table.

[0017] In one embodiment, in the extended position, the extension table leaf surface of each extension table leaf is non-coplanar with the main table leaf surface of the respective main table leaf, and each extension table leaf is movable relative to the respective main table leaf from the extended position to a working position in which the extension table leaf is in registration with the respective main table leaf, the extension table leaf surface of the extension table leaf is substantially coplanar with the main table leaf surface of the respective main table leaf, and the extension table leaf is securable in the working position. In one particular embodiment, each extension table leaf is carried by at least one respective carrier, each carrier is slidably carried by the respective main table leaf for moving the extension table leaf between the nested position and the extended position, and each extension table leaf is slidably carried by the respective at least one carrier for moving between the extended position and the working position. Each extension table leaf may be moved from the extended position to the working position by sliding the extension table leaf upwardly and outwardly rela-
tive to its respective at least one carrier to place the extension table leaf into an intermediate position, and then sliding the respective at least one carrier toward the respective main table leaf to bring the extension table leaf into registration with the main table leaf and thereby bring the extension table leaf into the working position. In the intermediate position, the extension table leaf is spaced from the main table leaf and the extension table leaf surface of the extension table leaf is substantially coplanar with the main table leaf surface of the respective main table leaf.

[0018] Preferably, each carrier is lockable to the respective main table leaf to secure the corresponding extension table leaf in the working position, and also preferably, each carrier is lockable to the respective main table leaf to secure the corresponding extension table leaf in the nested position.

[0019] In one embodiment, the at least one main table leaf is pivoting carried by the base support, and the main table leaf surface is generally perpendicular to the base table leaf surface when the main table leaf is in the retracted position. In another embodiment, the at least one main table leaf is slidlingly carried by the base support, and the main table leaf surface is generally parallel to the base table leaf surface when the main table leaf is in the retracted position.

[0020] In some embodiments, the table has two main table leaves and two extension table leaves. The main table leaves are opposed to one another on opposite sides of the base support.

[0021] A method for extending a table comprises moving a main table leaf movably carried by a base support from a retracted position, relative to the base support, to an expanded position in which a main table leaf surface of the main table leaf is generally coplanar with and in registration with a base table leaf surface of a base table leaf carried by the base support, and then sliding an extension table leaf from a nested position in which the extension table leaf nests in the main table leaf to an extended position wherein the extension table leaf extends beyond the respective main table leaf. The extension table leaf surface of the extension table leaf is generally parallel to the main table leaf surface in both the nested position and the extended position. The method further comprises sliding the extension table leaf upwardly and outwardly relative to the main table leaf to lock the extension table leaf into an intermediate position in which the extension table leaf is spaced from the main table leaf and the extension table leaf surface of the extension table leaf is substantially coplanar with the main table leaf surface of the respective main table leaf. The method then further comprises sliding the extension table member toward the respective main table leaf to bring the extension table leaf into registration with the main table leaf, and pivoting end supports pivotally carried by at least one main table leaf from a stowed position in which the end supports are generally parallel to the main table leaf surface to a support position in which the end supports are generally perpendicular to the main table leaf surface. Pivoting of the end supports may be carried out at any time after moving the main table leaf from the retracted position to the expanded position.

[0022] A separate main table leaf as described above may also be provided, for example for integration with a kitchen counter system or a kitchen pass through to form a table.

FULL DESCRIPTION OF THE DRAWINGS

[0023] These and other features will become more apparent from the following description in which reference is made to the appended drawings wherein:

[0024] FIG. 1 is a top perspective view showing an exemplary expandable and collapsible table in a fully collapsed configuration;

[0025] FIG. 2 is a top perspective view showing the table of FIG. 1 with one of its main table leaves moving between a refracted position and an expanded position and both extension leaves in a nested position;

[0026] FIG. 3A is a bottom perspective view showing the table of FIG. 1 with one of its main table leaves in the expanded position and both extension leaves in the nested position and end supports of the main table leaf in a stowed position;

[0027] FIG. 3B is a top perspective view showing the table of FIG. 1 with one of its main table leaves in the expanded position and both extension leaves in the nested position and the end supports of the main table leaf beginning to move from the stowed position to a support position;

[0028] FIG. 3C is a bottom perspective view showing the table of FIG. 1 with one of its main table leaves in the expanded position and both extension leaves in the nested position and the end supports of the main table leaf continuing to move from the stowed position to a support position;

[0029] FIG. 3D is a partial bottom perspective view showing the table of FIG. 1 with one of its main table leaves in the expanded position and both extension leaves in the nested position and the end supports of the main table leaf in the support position;

[0030] FIG. 4A is a top perspective view showing the table of FIG. 1 with one main table leaf in the expanded position and one main table leaf in the retracted position, with both extension table leaves in the nested position;

[0031] FIG. 4B is a top perspective view showing the table of FIG. 1 with one main table leaf in the expanded position and one main table leaf in the retracted position, with the extension table leaf carried by the main table leaf that is in the expanded position shown, with dashed lines, moving from the nested position to the extended position with the other extension table leaf in the nested position;

[0032] FIG. 5A is a cross sectional view of a of a side portion of a main table leaf and extension table leaf assembly, forming part of the table of FIG. 1, taken along the line 5A-5A in FIG. 6A;

[0033] FIG. 5B is a bottom view of the side portion of the main table leaf and extension table leaf assembly shown in FIG. 5A;

[0034] FIG. 6A is a cross-sectional view of a main table leaf and extension table leaf assembly, forming part of the table of FIG. 1, taken along the line 6A-6A in FIG. 3D, showing the main table leaf in the expanded position and the extension table leaf in the nested position and showing a locking arm of the assembly in a locking position;

[0035] FIG. 6B is a cross-sectional view of the main table leaf and extension table leaf assembly as shown in FIG. 6A, showing the main table leaf in the expanded position and the extension table leaf in the nested position and showing the locking arm in an unlocking position;

[0036] FIG. 6C is a cross-sectional view of the main table leaf and extension table leaf assembly as shown in FIG. 6A, showing the main table leaf in the expanded position and the
extension table leaf moving from the nested position toward the extended position with the locking arm in an unlocking position;

[0037] FIG. 6D is a cross-sectional view of the main table leaf and extension table leaf assembly as shown in FIG. 6A, showing the main table leaf in the expanded position and the extension table in the extended position with the locking arm between the locking and unlocking positions;

[0038] FIG. 6E is a cross-sectional view of the main table leaf and extension table leaf assembly as shown in FIG. 6A, showing the main table leaf in the expanded position and showing the extension table leaf sliding upwardly and outwardly relative to the main table leaf;

[0039] FIG. 6F is a cross-sectional view of the main table leaf and extension table leaf assembly as shown in FIG. 6A, showing the main table leaf in the expanded position and the extension table in an intermediate position in which the extension table leaf is spaced from the main table leaf and the extension table leaf surface is substantially coplanar with the main table leaf surface of the respective main table leaf, with the locking arm between the locking and unlocking positions;

[0040] FIG. 6G is a cross-sectional view of the main table leaf and extension table leaf assembly as shown in FIG. 6A, showing the main table leaf in the expanded position and the extension table leaf in the working position and showing the locking arm in the locking position;

[0041] FIG. 7 is a top perspective view showing the table of FIG. 1 with one main table leaf in the expanded position and one main table leaf in the retracted position, with the extension table leaf associated with the retracted main table leaf in the nested position and the extension table leaf associated with the expanded main table leaf in the working position;

[0042] FIG. 8 is a top perspective view showing the table of FIG. 1 with both main table leaves in the expanded position, with one extension table leaf in the nested position and the other extension table leaf in the working position;

[0043] FIG. 9 is a top perspective view showing the table of FIG. 1 with both main table leaves 104 in the expanded position and both extension table leaves in the working position;

[0044] FIG. 10A is a cross-sectional view of the main table leaf and extension table leaf assembly as shown in FIG. 6A, showing the main table leaf in the expanded position and the extension table leaf in the working position and showing the locking arm in the locking position;

[0045] FIG. 10B is a cross-sectional view of the main table leaf and extension table leaf assembly as shown in FIG. 6A, showing the main table leaf in the expanded position and the extension table in an intermediate position in which the extension table leaf is spaced from the main table leaf and the extension table leaf surface is substantially coplanar with the main table leaf surface of the respective main table leaf, with the locking arm between the locking and unlocking positions;

[0046] FIG. 10C is a cross-sectional view of the main table leaf and extension table leaf assembly as shown in FIG. 6A, showing the main table leaf in the expanded position and the extension table leaf in the expanded position with the locking arm between the locking and unlocking positions;

[0047] FIG. 10D is a cross-sectional view of the main table leaf and extension table leaf assembly as shown in FIG. 6A, showing the main table leaf in the expanded position and the extension table leaf moving from the expanded position toward the nested position with the locking arm in an unlocking position;

[0048] FIG. 10E is a cross-sectional view of the main table leaf and extension table leaf assembly as shown in FIG. 6A, showing the main table leaf in the expanded position and the extension table leaf in the nested position and showing the locking arm in the locking position;

[0049] FIG. 11A is a top perspective view of a second exemplary table integrated into a kitchen pass through, showing the table in a fully collapsed configuration;

[0050] FIG. 11B is a top perspective view showing the table of FIG. 11A with its single main table leaf in the expanded position and its single extension table leaf in the nested position with the end supports in the support position;

[0051] FIG. 11C is a top perspective view showing the table of FIG. 11A with its single main table leaf in the expanded position and its single extension table leaf in the working position with the end supports in the support position;

[0052] FIG. 12A is a top perspective view of a third exemplary table integrated into a kitchen counter system, showing the table in a fully collapsed configuration;

[0053] FIG. 12B is a top perspective view showing the table of FIG. 12A with its single main table leaf in the expanded position and its single extension table leaf in the nested position with the end supports in the support position;

[0054] FIG. 12C is a top perspective view showing the table of FIG. 12A with its single main table leaf in the expanded position and its single extension table leaf in the working position with the end supports in the support position;

[0055] FIG. 13A is a top perspective view of a fourth exemplary table integrated into a kitchen counter system, showing the table in a fully collapsed configuration;

[0056] FIG. 13B is a top perspective view showing the table of FIG. 12A with its single main table leaf in the expanded position and its single extension table leaf in the nested position with the end supports in the support position and telecopically extended into a supporting configuration;

[0057] FIG. 13C is a top perspective view showing the table of FIG. 12A with its single main table leaf in the expanded position and its single extension table leaf in the working position with the end supports in the support position and telecopically extended into a supporting configuration;

[0058] FIG. 14A is a cross sectional view of the kitchen counter system of FIG. 13A, taken along the line 14A-14A in FIG. 13A and showing the table of FIG. 13A in a fully collapsed configuration;

[0059] FIG. 14B is a cross sectional view as shown in FIG. 14A, showing the table of FIG. 13A with its main table leaf moving from the collapsed to the expanded position, with the expansion table leaf in the nested position and the end supports in the nesting position;

[0060] FIG. 14C is a cross sectional view as shown in FIG. 14A, showing the table of FIG. 13A with its main table leaf moving in the expanded position, with the expansion table leaf in the nested position and the end supports in the support position;

[0061] FIG. 15A is a detailed side view showing a portion of an exemplary locking mechanism for end supports;

[0062] FIG. 15B is a detailed end view of the locking mechanism of FIG. 15A with the end supports in a support position and the locking mechanism in an unlocked condition;

[0063] FIG. 15C is a detailed end view of the locking mechanism of FIG. 15A with the end supports in the support position and the locking mechanism in a locked condition;
FIG. 15D is a detailed perspective view of the locking mechanism of FIG. 15A with the end supports in the support position and the locking mechanism in the locked condition; FIG. 15E is a detailed perspective view of the locking mechanism of FIG. 15A with the end supports in the support position and the locking mechanism in an unlocked condition; FIG. 15F is an end view showing a portion of an exemplary table incorporating the locking mechanism of FIG. 15A with the end supports in the support position and the locking mechanism in the locked condition; and FIG. 15G is an end view showing a portion of an exemplary table incorporating the locking mechanism of FIG. 15A with the end supports in the support position and the locking mechanism in the unlocked condition.

DETAILED DESCRIPTION

Reference is first made to FIG. 1, which shows a first exemplary table 100 in a fully collapsed configuration. The table 100 comprises a base support 102 and two main table leaves 104 movably carried by the base support 102. In the illustrated embodiment, the base support 102 comprises two opposed base legs 106 joined by a crossbar 107 (FIG. 2), with each base leg 106 having feet 108 for allowing the base support 102 to rest on a flat surface.

The base support 102 further comprises a base table leaf 110 having base table leaf surface portion 112 that defines a generally planar base table leaf surface 112S. As can be seen, the exemplary base table leaf surface portion 112 comprises a plurality of parallel slats 114; although there are small recesses between the slats 114 the base table leaf surface 112S is still considered to be generally planar. The base table leaf 110 further comprises a pair of opposed parallel base table leaf sidewalls 115 depending from the edges of the base table leaf surface portion 112, substantially perpendicularly to the base table leaf surface 112S. Similarly, each main table leaf 104 comprises a main table leaf surface portion 116 that defines a respective generally planar main table leaf surface 116S, which in the illustrated embodiment comprises a plurality of parallel slats 118. The main table leaf 104 further comprises a pair of opposed parallel main table leaf sidewalls 119 depending from the edges of the main table leaf surface portion 116, substantially perpendicularly to the main table leaf surface 116S.

In the first exemplary table 100 shown in FIGS. 1 to 9E, the main table leaves 104 are pivotally carried by the base support 102 on opposite sides thereof so that the main table leaves 104 are opposed to one another. In particular, the proximal ends 116P of the main table leaf surfaces portions 116 are hinged to the distal ends 112D of the base table leaf surface portions 112 by respective piano hinges 120. As can be seen, in the fully collapsed configuration shown in FIG. 1, each of the main table leaves 104 is in a retracted position relative to the base support 102 in which the main table leaf surfaces 116 are generally perpendicular to the base table leaf surface 112S. In the retracted position, the main table leaves 104, including the main table leaf sidewalls 119, are disposed between the base table leaf sidewalls 115 and between sidewall portions 121 of the feet 108.

Referring now to FIGS. 1 to 3D, each main table leaf 104 is movable between the retracted position shown in FIG. 1 and an expanded position in which the respective main table leaf surface 116S is generally coplanar with and in registration with the base table leaf surface 112S. FIG. 2 shows the table 100 with one of the main table leaves 104 between the retracted position and the expanded position as it pivots about its piano hinge 120 from the retracted position (FIG. 1) to the expanded position (FIG. 3A) and FIG. 3A shows the table 100 with one of the main table leaves 104 in the expanded position.

Referring now to FIGS. 3A to 3D, each of the main table leaves 104 pivotally carries a pair of end supports 122. The end supports 122 are connected to one another by a reinforcing crossbar 126, and are pivotable between a stowed position and a support position. FIG. 3A shows the end supports 122 of one of the main table leaves 104 in the stowed position, FIGS. 3B and 3C show the end supports 122 pivoting from the stowed position to the support position, which is shown in FIG. 3D. As can be seen in FIG. 3A, in the stowed position the end supports 122 are generally parallel to the respective main table leaf surface 116 and positioned to rest within the respective main table leaf 104 when the extension table leaf 124 is in the nested position, and as can be seen in FIG. 3D, in the support position the end supports 122 are generally perpendicular to the respective main table leaf surface 116. Preferably, a locking mechanism is provided for releasably locking the end supports 122 in the support position and optionally in the stowed position; an exemplary embodiment of such a locking mechanism is described further below with reference to FIGS. 15A to 15G.

As shown in FIGS. 1 to 3C, protruding thumbscrews 111 may be rotatably set in each side of the base support 102 to cooperate with corresponding threaded apertures 113 in the end supports 122 to secure the main table leaves 104 in the collapsed position. Optionally, the threaded apertures 113 may be placed in the main table leaves 104 or the expansion table leaves 124, depending on the configuration.

Reference is now made to FIGS. 4A to 6G. Each main table leaf 104 slidably carries a respective extension table leaf 124. Similarly to the base table leaf 110 and the main table leaves 104, each extension table leaf 124 comprises an extension table leaf surface portion 128 that defines a respective generally planar extension table leaf surface 128S, and a pair of opposed parallel extension table leaf sidewalls 130 depending from the edges of the extension table leaf surface portion 128. In the illustrated embodiments the extension table leaf surface portions 128 each comprise a plurality of parallel slats 132 (see FIGS. 7 to 9). Each extension table leaf 124 is slidably movable, relative to the main table 104 that carries it, between a nested position in which the extension table leaf 124 nests in its respective main table leaf 104, as shown in FIGS. 4A and 5A, and an extended position in which the extension table leaf 124 extends beyond the respective main table leaf 104 and exposes substantially all of its extension table leaf surface 128S, as shown in FIG. 6D. As can be seen in the Figures, the extension table leaf surface 128S of each extension table leaf 124 is substantially parallel to the main table leaf surface 116S of the respective main table leaf 104 in both the nested position and the extended position, with the extension table leaf surface portion 128 and extension table leaf sidewalls 130 disposed between the base table leaf sidewalls 115 in the nested position.

In the exemplary embodiment shown in FIGS. 1 to 9E, each extension table leaf 124 is movable relative to the respective main table leaf 104 from the extended position (FIG. 6D) to a working position (FIG. 6C). As can be seen in
FIG. 6D, in the extended position the extension table leaf surface 128S of each extension table leaf 124 is non-coplanar with the main table leaf surface 116S of the respective main table leaf 104. In particular, for the extension table leaf 124 to nest in its respective main table leaf 104, in the extended position the extension table leaf surface 128S is lower than the underside of the respective main table leaf surface portion 112 (with the main table leaf 104 and extension table leaf 124 both in a horizontal position). Thus, when the extension table leaf 124 slides from the nested position (FIG. 6A) to the extended position (FIG. 6D), the extension table leaf surface 128S is lower than the main table leaf surface 116S by at least the thickness amount of the main table leaf surface portion 116, creating a vertical discontinuity between the main table leaf surface 116S and the extension table leaf surface 128S when the extension table leaf 124 is in the extended position (FIG. 6D). To eliminate this vertical discontinuity, each extension table leaf 124 is movable relative to the respective main table leaf 104 from the extended position (FIG. 6D) to a working position (FIG. 6G) in which the extension table leaf 124 is in registration with the respective main table leaf 104 and the extension table leaf surface 128S of the extension table leaf 124 is substantially coplanar with the main table leaf surface 116S of the respective main table leaf 104. Details of this operation and the related mechanism will be described below with reference to FIGS. 6A to 6G.

Each extension table leaf 124 is carried by a respective carrier 140 in the form of a frame, and the carrier 140 is in turn slidably carried by the respective main table leaf 104 for moving the extension table leaf 124 between the nested position and the extended position. In particular, in the illustrated embodiment the carrier 140 includes a pair of opposed parallel carrier arms 142 connected by one or more crossbars, and a telescopically slideable rail system 144 extends between each carrier arm 142 and a corresponding one of the main table leaf sidewalls 119. Thus, each extension table leaf 124 is slidably carried by its respective carrier 140 for moving between the extended position and the working position. In other embodiments, two carriers may be provided for each main table leaf 104 and extension table leaf 124; for example the carrier arms may not be connected to one another and each carrier arm could then be considered a separate carrier.

Reference is now made to FIGS. 5A and 5B, which show the interconnection among the extension table leaf 124, main table leaf 104, carrier 140 and rail system 144.

As noted above, each main table leaf 104 comprises a main table leaf surface portion 116 and a pair of opposed parallel main table leaf sidewalks 119 depending from the edges of the main table leaf surface portion 116. As best seen in FIG. 5A the main table leaf sidewalks 119 each comprise a mounting portion 119M, an outer portion 119E, a spacer portion 119S and an inner portion 119I. The mounting portion 119M extends inwardly, relative to the outer portion 119E, and is secured to the underside of the main table leaf surface portion 116. The outer portion 119E extends from the mounting portion 119M substantially perpendicularly thereto, away from the main table leaf surface portion 116. The spacer portion 119S extends inwardly from the end of the outer portion 119E that is distal from mounting portion 119M, and the inner portion 119I is spaced from the outer portion 119E by the spacer portion 119S, and extends toward the main table leaf surface portion 116, parallel to the outer portion 119E.

As also noted above, each extension table leaf 124 comprises an extension table leaf surface portion 128 and a pair of opposed parallel extension table leaf sidewalks 130 depending from the edges of the extension table leaf surface portion 128. The extension table leaf sidewalks 130 each comprise a mounting portion 130M and an outer portion 130E, with the mounting portion 130M extending inwardly relative to the outer portion 130E and secured to the underside of the extension table leaf surface portion 128 and the outer portion 130E extending from the mounting portion 130M substantially perpendicularly thereto, away from the extension table leaf surface portion 128. As can be seen in FIG. 15, with the extension table leaf 124 nested inside its respective main table leaf 104, the outer portion 130E of the extension table leaf sidewalk 130 is disposed between the inner portion 119I and the outer portion 119E of the respective main table leaf sidewalk 119.

The carrier arms 142 are of generally U-shaped cross-section linked to one another by a crossbar (not shown in FIGS. 5A and 5B). The carrier arms 142 each comprise an inner portion 142I and an outer portion 142E that are parallel to one another and spaced from one another by a spacer portion 142S. The inner portion 142I and an outer portion 142E of each carrier arm 142 extend from opposite ends of the respective spacer portion 142S, away from the main table leaf 104 and the extension table leaf 124. As seen in FIG. 5A, the outer portion 142E of each carrier arm 142 is disposed between the inner portion 119I of the corresponding main table leaf sidewalk 119 and the outer portion 130E of the corresponding extension table leaf sidewalk 130.

As noted above, the telescopically slideable rail system 144 extends between each carrier arm 142 and a corresponding one of the main table leaf sidewalks 119. More particularly, in the illustrated embodiment the telescopically slideable rail system 144 extends between the inner portion 142I of the respective carrier arm 142 and the inner portion 119I of the respective main table leaf sidewalk 119. The slide rail system 144 comprises an outer rail 144E, an intermediate rail 144N and an inner rail 144I. The intermediate rail 144N is captured by the outer rail 144E and the inner rail 144I is captured by the intermediate rail 144N, with bearings 145 interposed between the outer rail 144E and the intermediate rail 144N and between the intermediate rail 144N and the inner rail 144I. The outer rail 144E is secured to the inside face of the inner portion 119I of the respective main table leaf sidewalk 119 and the inner rail 144I is secured to the outside face of the inner portion 142I of the respective carrier arm 142, enabling the extension table leaf 124 to slide relative to the main table leaf 104.

Continuing to refer to FIGS. 5A and 5B, each extension table leaf 124 is carried by and slidably mounted to its respective carrier 140 by a pair of opposed parallel slide mountings 160 that depend downwardly from the underside of the extension table leaf surface portion 128. The slide mountings 160 are disposed inwardly of the extension table leaf sidewalks 130, the carrier arms 142 and the rail system 144. Opposed locking arms 168 (discussed further below) are pivotally mounted to the inner portion 142I of the carrier arms 142 or to the inner rail 144I and disposed between the inner portion 140I of the respective carrier 140 and the respective slide mounting 160.

Now referring to FIGS. 6A to 6G, it can be seen that in the exemplary embodiment shown in those Figures, each of the slide mountings 160 includes a pair of spaced apart...
mounting tabs in the form of a proximal mounting tab 162P and a distal mounting tab 162D. When the main table leaf 104 is in the expanded position, the proximal mounting tab 162P is closest to the base table leaf 110 and the distal mounting tab 162D is furthest from the base table leaf 110. The proximal mounting tab 162P and the distal mounting tab 162D each include respective guide slots 164P, 164D for permitting guided sliding motion of the extension table leaf 124 relative to the carrier 140, and corresponding proximal and distal guide posts 166P, 166D, extend inwardly from the inner portion 142 of the carrier arm 142 (or from the inner rail 144I) through the respective guide slots 164P, 164D to slidably mount the extension table leaf 124 to its respective carrier 140. The proximal and distal guide posts 166P, 166D may include suitable bearings. The guide slots 164P, 164D each include a respective lower supporting portion 164P, 164D. In the illustrated embodiment, the guide portions 164P, 164D are linear and parallel to one another and slope upwardly and outwardly, relative to the main table leaf 104, in a horizontal position, at about a 45 degree angle from the main table leaf surface 116S.

As noted above, each carrier 140 has a pair of opposed locking arms 168 pivotally mounted thereon. The locking arms 168 are used for locking the carrier 140 to its respective main table leaf 104 to secure the corresponding extension table leaf 124 in either the working position or the nested position. As explained above in reference to FIG. 5A, the locking arms 168 are disposed inwardly of the extension table leaf sidewalks 130, the carrier arms 142 and the rail system 144, but exteriorly of the slide mountings 160. As such, each locking arm 168 includes elongate proximal and distal through-holes or cut-outs to accommodate the proximal and distal guide posts 166P, 166D while still permitting the locking arm 168 to pivot; the proximal and distal guide posts 166P, 166D extend through the proximal and distal through-holes and then through the respective guide slots 164P, 164D.

Each locking arm 168 is pivotally mounted to its respective carrier 140 by way of a pivot pin 172 extending inwardly from the inner portion 140I of the carrier 140 (or from the inner rail 144I) through a correspondingly positioned pivot aperture 174; preferably a bearing is interposed between the pivot pin 172 and the pivot aperture 174. Cut-outs 176 are defined through each locking arm 168 to accommodate rivets 178 that secure the inner rail 144I to the inner portion 140I of the carrier arm 142. Each locking arm 168 is pivotable between a locking position (FIGS. 6A and 6C) and an unlocked position (FIG. 6B).

Each locking arm 168 has an upwardly projecting detent 180 at its proximal end and a downwardly projecting actuator tab 182 at its distal end. When the main table leaf 104 is in the expanded position, the proximal end of the locking arm 168 is closest to the base table leaf 110 and the distal end is furthest from the base table leaf 110. The detent 180 cooperates with a nested position catch 184 and a working position catch 186 on the underside of the main table leaf surface portion 116 to retain the corresponding extension table leaf 124 in either the nested position or the working position, respectively. A biasing member 188 acts between the carrier 140 and the distal end 168D of the locking arm 168 to bias the locking arm 168 into the locking position. In the illustrated embodiment, the biasing member 188 is a spring.

Continuing to refer to FIGS. 6A to 6G, movement of the extension table leaf 124 from the nested position to the working position will now be described. FIGS. 6A to 6G show an inside view of one side of a main table leaf assembly comprising a main table leaf 104, a carrier 140 and an extension table leaf 124.

FIG. 6A shows the extension table leaf 124 secured in the nested position within its respective main table leaf 104. The distal end 124D of the extension table leaf 124 is substantially flush with the distal end 104D of the main table leaf 104 and the extension table leaf surface portion 128 is disposed below the main table leaf surface portion 116 with the extension table leaf sidewalls 130 disposed between the main table leaf sidewalls 119. The extension table leaf 124 is supported by the proximal and distal guide posts 166P, 166D, which engage the upper end of the proximal and distal guide portions 164P, 164D. The locking arm 168 is biased into the locking position by the biasing member 188, and the detent 180 cooperates with the nested position catch 184 on the main table leaf surface portion 116 to secure the corresponding extension table leaf 124 in the nested position.

Now referring to FIG. 6B, to release the extension table leaf 124 from the nested position, a user will apply upward pressure to the actuator tab 182 at the distal end of the locking arm 168 sufficient to overcome the force exerted by the biasing member 188. This pivots the locking arm 168 about the pivot pin 172, moving the detent 180 out of engagement with the nested position catch 184. The extension table leaf 124 is now free to slide relative to the main table leaf 110.

Referring now to FIG. 6C, the carrier 140 and the extension table leaf 124 carried thereby are slid outwardly, relative to the main table leaf 110, by way of the telescopic rail system 144 interposed therebetween. This sliding motion continues until the travel limit imposed by the telescopic rail system 144 is reached and the extension table leaf 124 is in the extended position, as shown in FIG. 6D. As can be seen in FIG. 6D, in the extended position the extension table leaf 124 extends beyond the respective main table leaf 104 and exposes substantially all of its extension table leaf surface 128S, with a slight overlap of the distal end 104D of the main table leaf 104 and the proximal end 124P of the extension table leaf 124, with a vertical discontinuity between the main table leaf surface 116S and the extension table leaf surface 128S. In the extended position, the lower surface of the extension table leaf surface portion 128 and therefore does not lock the extension table leaf 124, permitting the user to release the pressure applied to the actuator tab 182.

Referring now to FIG. 6E, the extension table leaf 124 is slid upwardly and outwardly relative to its respective carrier 140. In particular, the slide mountings 160 that support the extension table leaf 124, and specifically the proximal mounting tab 162P and the distal mounting tab 162D, ride upwardly and outwardly along corresponding proximal and distal guide posts 166P, 166D. Thus, the motion of the extension table leaf 124 is constrained to be upward and outward, relative to the main table leaf 104, by the shape and angle of the guide portions 164P, 164D of the guide slots 164P, 164D.

As the extension table leaf 124 is slid upwardly and outwardly with the mounting tabs 162P, 162D sliding along the corresponding guide posts 166P, 166D, the mounting tabs reach a position, shown in FIG. 6F, in which the guide posts 166P, 166D are inside the lower supporting portion 164P, 164D.
As can be seen in FIGS. 6A to 6G, the proximal lower supporting portion 164PLS comprises a linear jog in the proximal direction and the distal lower supporting portion 164DLS comprises a jog in the proximal direction that is also upwardly angled. The guide posts 166P, 166D engage the upper surface of the respective lower supporting portion 164PLS, 164DLS and thereby support and maintain the extension table leaf 124 in an elevated position relative to the carrier 140, as compared to the extended position shown in FIG. 6D. The position shown in FIG. 6F is an intermediate position in which the extension table leaf 124 is spaced from the main table leaf 104 and the extension table leaf surface 128S of the extension table leaf 124 is substantially coplanar with the main table leaf surface 116S of the respective main table leaf 104.

The extension table leaf 124 can then be placed into the working position, shown in FIG. 6G, by sliding the respective carrier 140 toward the respective main table leaf 104 to bring the extension table leaf 124 into registration with the main table leaf 104, with the distal end of the main table leaf 104 engaging the proximal end of the extension table leaf 124. This also brings the detent 180 into proper alignment with the working position catch 186 on the underside of the main table leaf surface portion 112. Upon release of the actuator tab 182 (if not already released) the biasing member 188 will pivot the locking arm 168 to move the detent 180 upwardly into engagement with the working position catch 186 to secure the extension table leaf 124 in the working position.

Thus, FIGS. 6D to 6G show the process for moving the extension table leaf 124 from the extended position to the working position in an exemplary embodiment.

Reference is now made to FIGS. 10A to 10E, which show the process for moving an extension table leaf 124 from the working position to the nested position, relative to its respective main table leaf 104. This process is substantially the reverse of that shown and described in respect of FIGS. 6A to 6G.

Referring now to FIG. 10A, the user applies pressure to the actuator tab 182 to overcome the force exerted by the biasing member 188 and thereby pivot the locking arm 168 so that the detent 180 moves downwardly out of engagement with the working position catch 186. While continuing to apply pressure to the actuator tab 182, the user then slides the carrier 140 outwardly, placing the extension table leaf 124 into the intermediate position (FIG. 10D) in which the extension table leaf 124 is spaced from the main table leaf 104 and the extension table leaf surface 128S is substantially coplanar with the main table leaf surface 116S. Optionally, the user can release the pressure on the actuator tab 182 at this point.

From the intermediate position shown in FIG. 10B, the extension table leaf 124 can be placed into the extended position shown in FIG. 10C by sliding the extension table leaf 124 downwardly and inwardly with the mounting tabs 162P, 162D sliding along the corresponding guide posts 166P, 166D until the proximal and distal guide portions 164PG, 164DG. The extension table leaf 124 is now in the extended position (FIG. 10C).

Referring now to FIG. 10D, while applying pressure to the actuator tab 182 the user then slides the carrier 140 and the extension table leaf 124 carried thereby inwardly relative to the main table leaf 110, by way of the telescopic rail system 144 interposed therebetween, until the carrier 140 and extension table leaf 124 are in the nested position, as shown in FIG. 10E. The user can then release the actuator tab 182 and the biasing member 188 will pivot the locking arm 168 to move the detent 180 upward into engagement with the nested position catch 184 to secure the extension table leaf 124 in the nested position.

For the illustrated table 100, it is preferable that the user continue to apply pressure to the actuator tab 182 while moving the carrier 140 and the extension table leaf 124 between the nested position and the extended position to prevent the detent 180 from catching on the underside of the main table leaf surface portion 116.

The first exemplary table 100 shown in FIGS. 1 to 4B and FIGs. 6 to 8 has two main table leaves 104 and two extension table leaves 124, in addition to the base support 102. This enables the first exemplary table 100 to be placed in a variety of different configurations to create tables of various sizes. FIG. 4A shows the table 100 with one main table leaf 104 in the expanded position and one main table leaf 104 in the retracted position, with both extension table leaves 124 in the nested position. FIG. 7 shows the table 100 with one main table leaf 104 in the expanded position and one main table leaf 104 in the retracted position, with the extension table leaf 124 associated with the retracted main table leaf 104 in the nested position and the extension table leaf 124 associated with the expanded main table leaf 104 in the working position. FIG. 8 shows the table 100 with both main table leaves 104 in the expanded position, with one extension table leaf 124 the nested position and the other extension table leaf 124 in the working position. FIG. 9 shows the table 100 with both main table leaves 104 in the expanded position and both extension table leaves 124 in the working position. Although not shown, the table 100 may also be configured with both main table leaves 104 in the expanded position and both extension table leaves 124 in the nested position.

While the first exemplary table 100 shown in FIGS. 1 to 4B and FIGS. 6 to 8 has two main table leaves 104 and two extension table leaves 124, in addition to the base support 102, other exemplary tables may have only one main table leaf and one extension table leaf. Such tables may be permanently installed in a building or sufficiently large vehicle, and the base support and/or base table leaf may be integrated into a fixture thereof.

Reference is now made to FIGS. 11A to 11C, which show a second exemplary table 1100. The second exemplary table 1100 is integrated into a kitchen pass through 1190 defined in a wall 1192 separating a kitchen from a dining room. The second exemplary table 1100 is substantially identical to the first exemplary table 100 except that the second exemplary table 1100 has only one main table leaf 1104 and one extension table leaf 1124 and the wall 1192 serves as a base support that carries the base table leaf 1110. Accordingly, corresponding reference numerals are used to refer to features of the second exemplary table 1100 that correspond to features of the first exemplary table 100, except with the prefix “11” instead of “1”. FIG. 11A shows the second exemplary table 1100 in a fully collapsed configuration. FIG. 11B shows the second exemplary table 1100 with its single main table leaf 1104 in the expanded position and its single extension table leaf 1124 in the nested position with the end supports 1122 in the support position. FIG. 11C shows the second exemplary table 1100 with its single main table leaf 1104 in the expanded position and its single extension table leaf 1124 in the working position with the end supports 1122 in the
support position. As will be appreciated, by integrating the second exemplary table 1100 into a kitchen pass through 1190, a home or a sufficiently large vehicle such as a yacht or aircraft may be provided with a completely collapsible dining room table 1000 which frees up space in the dining room when the table 1100 is not in use.

[0103] Reference is now made to FIGS. 12A to 12C, which show a third exemplary table 1200. The third exemplary table 1200 is substantially identical to the second exemplary table 1100, except that the third exemplary table 1200 is integrated into a kitchen counter system 1290 such as a kitchen island. In this embodiment, the kitchen counter system 1290 serves as a base support and the countertop forms the base table leaf 1210 to which the main table leaf 1204 is hinged. Corresponding reference numerals are used to refer to features of the third exemplary table 1200 that correspond to features of the first and second exemplary tables 100, 1100, except with the prefix “12” instead of “1” or “11”. The third exemplary table 1200 may be used to temporarily extend the available kitchen counter space and then collapsed when not in use. FIG. 12A shows the third exemplary table 1200 in a fully collapsed configuration, FIG. 12B shows the third exemplary table 1200 with the single main table leaf 1204 in the expanded position and the single extension table leaf 1224 in the nested position, with the end supports 1222 in the support position and FIG. 12C shows the third exemplary table 1200 with the single main table leaf 1204 in the expanded position and the extension table leaf 1224 in the working position with the end supports 1222 in the support position.

[0104] FIGS. 13A to 13C show a fourth exemplary table 1300 which, like the third exemplary table 1200, is integrated into a kitchen counter system 1390 such as a kitchen island. The fourth exemplary table 1300 differs from the third exemplary table 1200 in that rather than being hinged to the countertop 1310, the main table leaf 1304 of the fourth exemplary table 1300 is slidingly carried by the kitchen counter system 1390, which functions as a base support, so that when the main table leaf 1304 is in the retracted position, the main table leaf surface 1316S is generally parallel to the surface 1312S of the countertop 1312, which forms the base table leaf 1310. Corresponding reference numerals are used to refer to corresponding features, except with the prefix “13” instead of “12”.

[0105] As can be seen in FIGS. 13B and 13C, the main table leaf 1304 and the single extension table leaf 1324 of the fourth exemplary table are somewhat shorter in length than those of the first, second and third exemplary tables 100, 1100, 1200. This shortened length is to accommodate the depth of the kitchen counter system 1390. Because of this shortened length, end supports of sufficient length to support the fourth exemplary table 1300 would be too long to pivot into the stowed position parallel to the main table leaf surface 1316S, while end supports that were short enough to pivot into the stowed position would be too short to support the fourth exemplary table 1300 on the floor. For this reason, the fourth exemplary table 1300 is provided with telescopic end supports 1322 that can be telescopically retracted into a nesting configuration and telescopically expanded into a supporting configuration, and secured at least in the supporting configuration. Any suitable telescoping and locking mechanism known in the art may be used. In FIG. 13A, the fourth exemplary table 1300 is in a fully collapsed configuration, in FIG. 13B the fourth exemplary table 1300 is shown with the single main table leaf 1304 in the expanded position and the single extension table leaf 1324 in the nested position, with the end supports 1322 in the support position and telescopically expanded into the supporting configuration, and in FIG. 13C the fourth exemplary table 1300 is shown with the single main table leaf 1304 in the expanded position and the extension table leaf 1324 in the working position, again with the end supports 1322 in the support position and telescopically expanded into a supporting configuration.

[0106] FIGS. 14A to 14C show an exemplary arrangement for the main table leaf 1304 of the fourth exemplary table 1300 to be slidingly carried by the kitchen counter system 1390, which functions as a base support for the fourth exemplary table 1300. FIG. 14A shows the fourth exemplary table 1300 in the collapsed configuration, in which it is stored within a correspondingly sized and shaped compartment 1410 in the kitchen counter system 1390, with the main table leaf 1304 supported at its outermost end by the upper edge 1412 of a wall 1414 of the kitchen counter system 1390. Wheeled track followers 1416 extend from the proximal end 1304P of the main table leaf 1304 at both sides thereof, and ride along a parallel set of opposed tracks 1418 disposed at opposite sides of the compartment 1410. The inner end 1304I of the main table leaf 1304 is supported by the track followers 1416 and track 1418. The major portions of the tracks 1418, specifically the portions furthest from the outer end or front 1420 of the compartment 1410, are substantially linear to facilitate outward sliding of the main table leaf 1304. As the tracks 1418 approach the front 1420 of the compartment 1410, they curve upwardly, then curve inwardly away from the front 1420 of the compartment 1410, then downwardly, then outwardly toward the front 1420 of the compartment 1410 and then finally upwardly again, so as to define a terminal concavity 1422 in the track 1418. As the main table leaf 1304 is pulled outwardly to move it from the collapsed position (FIG. 14A) to the expanded position (FIG. 14C), the track followers 1416 move along the tracks 1418 and, as the track followers 1416 approach the front 1420 of the compartment 1410, they follow the curve of the tracks 1418 until the wheels 1424 of the track followers 1416 rest in the terminal concavity 1422. The track followers 1416 cause the main table leaf 1304 to follow the shape of the tracks 1418, so that as the inner end 1304I of the main table leaf 1304 approaches the front 1420 of the compartment 1410, the main table leaf 1304 begins to move upwardly, then inwardly, and then downwardly and outwardly until the main table leaf 1304 is flush with the countertop 1312, with the main table leaf surface 1316S substantially coplanar with the surface 1312S of the countertop 1312. This is the expanded position of the main table leaf 1304, as shown in FIG. 14C.

[0107] To assist in retaining the main table leaf 1304 in the expanded position, bracing bars 1430 are slidably mounted at the sides of the main table leaf so as to be moveable between a withdrawn position (FIGS. 14A and 14B) and a bracing position (FIG. 14C). Once the main table leaf is in the expanded position, the bracing bars 1430 are slid into correspondingly positioned receiving slots 1432 in the face of the kitchen counter system 1390. The bracing bars 1430 bear against the underside of the countertop (or another suitable surface in the kitchen counter system 1390) to resist pivoting of the main table leaf 1304 downwardly under its own weight. This makes it easier for a user to move the end supports 1322 from the stowed position to the support position and move the extension table leaf 1324 from the nested position into the working position.
As noted above, a locking mechanism is provided for releasably locking the end supports in the support position and optionally in the stowed position; an exemplary embodiment of such a locking mechanism will now be described. FIGS. 15A to 15G show an exemplary mounting arrangement and locking mechanism for end supports and which may form part of any of the exemplary tables 100, 1100, 1200, 1300 described herein. As such, the generic exemplary table shown in FIGS. 15A to 15G is denoted generally by the reference numeral 1500, and may be any one of the first, second, third or fourth exemplary tables 100, 1100, 1200, 1300 described herein or another table. Corresponding reference numerals are used to refer to corresponding features of the table 1500, except with the prefix “15” instead of “1”, “11”, “12” or “13”.

A pair of opposed pivot mountings 1590 depend from the carrier 1540 at the distal end thereof. The pivot mountings each comprise two spaced-apart parallel curved mounting walls 1591 extending inwardly from an end spacer portion 1592. The pivot ends 1522p of the end supports 1522 are received by the pivot mountings 1590 between the mounting walls 1591 and are pivotally secured to the pivot mountings 1590 by a pivot pin 1593 that extends between the mounting walls 1591 through a corresponding pivot aperture in the pivot ends 1522p of the end supports 1522.

Each of the pivot mountings 1590 has two pairs of opposed notches defined therein, namely a pair of stowed position notches 1594T and a pair of support position notches 1594S. One stowed position notch 1594T and one support position notch 1594S is defined in each mounting wall 1591. For each pivot mounting 1590, the stowed position notches 1594T are in registration with one another and the support position notches 1594S are in registration with one another. A locking bar 1595 extends through each end support 1522, and each end support 1522 has slots defined therein for receiving the locking bar 1595. As can be seen in FIG. 15A, when the end supports 1522 are in the stowed position, the locking bar 1595 is in registration with the stowed position notches 1594T of each pivot mounting 1590, and when the end supports 1522 are in the support position, the locking bar 1595 is in registration with the support position notches 1594S of each pivot mounting 1590. The locking bar 1595 is slidably received by the end supports 1522 and is movable between a locking position and an unlocking position. The locking bar 1595 has two pairs of spaced apart notches 1596 defined therein, with the notches 1596 in each pair being spaced from one another by a distance approximately equal to the distance between the mounting walls 1591 of each pivot mounting 1590. When the locking bar 1595 is in the locking position, as shown in FIGS. 15D and 15G, the pairs of notches 1596 in the locking bar 1595 are in registration with the mounting walls 1591 of a corresponding pivot mounting 1590. This enables the end supports 1522 to pivot freely within the pivot mountings 1590 as the curved edges 1597 of the mounting walls 1591 fit within the notches 1596 in the locking bar 1595 and therefore do not obstruct pivoting of the end supports 1522. When the locking bar 1595 is in the locking position, as shown in FIGS. 15C and 15F, the pairs of notches 1596 in the locking bar 1595 are out of registration with the mounting walls 1591 of the corresponding pivot mounting 1590. This prevents the end supports 1522 from pivoting. Specifically, when the end supports 1522 are in the stowed position and the locking bar 1595 is in the locking position, the stowed position notches 1594T engage the locking bar to prevent the end supports 1522 from pivoting, and when the end supports 1522 are in the support position and the locking bar 1595 is in the locking position, the support position notches 1594S engage the locking bar to prevent the end supports 1522 from pivoting. Within each end support 1522, a biasing member 1598 acts between the locking bar 1595 and the end support 1522 to bias the locking bar 1595 into the locking position. As seen in FIGS. 15I, 15C, 15F and 15G, in the exemplary illustrated embodiment shown the biasing member 1598 is a leaf spring that acts between an inside wall of each end support 1522 and a corresponding post 1599 on the locking bar 1595.

One or more currently preferred embodiments have been described by way of example. It will be apparent to persons skilled in the art that a number of variations and modifications can be made without departing from the scope of the appended claims.

What is claimed is:
1. A table, comprising:
   a base support;
   the base support including a base table leaf having a generally planar base table leaf surface;
   at least one main table leaf movably carried by the base support;
   each main table leaf defining a respective generally planar main table leaf surface;
   each main table leaf movable between:
      a retracted position; and
      an expanded position in which the respective main table leaf surface is generally coplanar with and in registration with the base table leaf surface;
   at least one extension table leaf;
   each extension table leaf defining a respective generally planar extension table leaf surface;
   each extension table leaf slidably carried by a respective main table leaf;
   each extension table leaf being slidably movable between:
      a nested position in which the respective extension table leaf nests in the respective main table leaf; and
      an extended position wherein the extension table leaf extends beyond the respective main table leaf;
   the extension table leaf surface of each extension table leaf being substantially parallel to the main table leaf surface of the respective main table leaf in both the nested position and the extended position;
   end supports pivotally carried by the at least one main table leaf;
   the end supports being pivotable between:
      a stowed position in which the end supports are generally parallel to the main table leaf surface of their respective main table leaf to nest within the respective main table leaf when the extension table leaf is in the nested position; and
      a support position in which the end supports are generally perpendicular to the main table leaf surface of their respective main table leaf for supporting the table.
2. The table of claim 1, wherein:
   in the extended position, the extension table leaf surface of each extension table leaf is non-coplanar with the main table leaf surface of the respective main table leaf; and
   each extension table leaf is movable relative to the respective main table leaf from the extended position to a working position in which:
the extension table leaf is in registration with the respective main table leaf; and
the extension table leaf surface of the extension table leaf is substantially coplanar with the main table leaf surface of the respective main table leaf; and
the extension table leaf is securable in the working position.

3. The table of claim 2, wherein:
each extension table leaf is carried by at least one respective carrier;
each carrier is slidably carried by the respective main table leaf for moving the extension table leaf between the nested position and the extended position; and
each extension table leaf is slidably carried by the respective at least one carrier for moving between the extended position and the working position.

4. The table of claim 3, wherein each extension table leaf is movable from the extended position to the working position by:
sliding the extension table leaf upwardly and outwardly relative to its respective at least one carrier to place the extension table leaf into an intermediate position in which:
the extension table leaf is spaced from the main table leaf;
and
the extension table leaf surface of the extension table leaf is substantially coplanar with the main table leaf surface of the respective main table leaf; and
then sliding the respective at least one carrier toward the respective main table leaf to bring the extension table leaf into registration with the main table leaf and thereby bring the extension table leaf into the working position.

5. The table of claim 4, wherein each carrier is lockable to the respective main table leaf to secure the corresponding extension table leaf in the working position.

6. The table of claim 5, wherein each carrier is lockable to the respective main table leaf to secure the corresponding extension table leaf in the nested position.

7. The table of claim 1, wherein:
the at least one main table leaf is pivotingly carried by the base support; and
the main table leaf surface is generally perpendicular to the base table leaf surface when the main table leaf is in the retracted position.

8. The table of claim 1, wherein:
the at least one main table leaf is slidingly carried by the base support; and
the main table leaf surface is generally parallel to the base table leaf surface when the main table leaf is in the retracted position.

9. The table of claim 1, wherein the table has two main table leaves and two extension table leaves.

10. The table of claim 9, wherein the main table leaves are opposed to one another on opposite sides of the base support.

11. The table of claim 1, wherein the table has one main table leaf and one extension table leaf.

12. An extendable main table leaf assembly, comprising:
a main table leaf having a generally planar main table leaf surface;
an extension table leaf defining a generally planar extension table leaf surface;
the extension table leaf slidably carried by the main table leaf;
the extension table leaf being slidably movable between:
a nested position in which the extension table leaf nests within the main table leaf, and
an extended position wherein the extension table leaf extends beyond the main table leaf;
the extension table leaf surface being generally parallel to the main table leaf surface in both the nested position and the extended position;
end supports pivotally carried by the at least one main table leaf;
and
the end supports being pivotable between:
a stowed position in which the end supports are generally parallel to the main table leaf surface of their respective main table leaf to nest within the respective main table leaf when the extension table leaf is in the nested position; and
a support position in which the end supports are generally perpendicular to the main table leaf surface of their respective main table leaf for supporting the table.

13. The extendable main table leaf assembly of claim 12, wherein:
in the extended position, the extension table leaf surface is non-coplanar with the main table leaf surface; and
the extension table leaf is movable relative to the main table leaf from the extended position to a working position in which:
the extension table leaf is in registration with the main table leaf;
and
the extension table leaf surface of the extension table leaf is substantially coplanar with the main table leaf surface of the main table leaf; and
the extension table leaf is securable in the working position.

14. The extendable main table leaf assembly of claim 13, wherein:
the extension table leaf is carried by at least one respective carrier;
each carrier is slidably carried by the main table leaf for moving the extension table leaf between the nested position and the extended position; and
the extension table leaf is slidably carried by the respective at least one carrier for moving between the extended position and the working position.

15. The extendable main table leaf of claim 14, wherein the extension table leaf is movable from the extended position to the working position by:
sliding the extension table leaf upwardly and outwardly relative to its at least one carrier to place the extension table leaf into an intermediate position in which:
the extension table leaf is spaced from the main table leaf;
and
the extension table leaf surface is substantially coplanar with the main table leaf surface; and
then
sliding the at least one carrier toward the main table leaf to bring the extension table leaf into registration with the main table leaf and thereby bring the extension table leaf into the working position.

16. The extendable main table leaf of claim 15, wherein each carrier is lockable to the main table leaf to secure the extension table leaf in the working position.

17. The extendable main table leaf of claim 15, wherein each carrier is lockable to the main table leaf to secure the extension table leaf in the nested position.
18. A method for extending a table, comprising:
moving a main table leaf movably carried by a base support 
from a retracted position, relative to the base support, to 
an expanded position in which a main table leaf surface 
of the main table leaf is generally coplanar with and in 
registration with a base table leaf surface of a base table 
leaf carried by the base support;
sliding an extension table leaf from a nested position in 
which the extension table leaf nests in the main table leaf 
to an extended position wherein the extension table leaf 
extends beyond the respective main table leaf;
an extension table leaf surface of the extension table leaf 
being generally parallel to the main table leaf surface in 
both the nested position and the extended position;
sliding the extension table leaf upwardly and outwardly 
relative to the main table leaf to lock the extension table 
leaf into an intermediate position in which:
the extension table leaf is spaced from the main table 
leaf; and
the extension table leaf surface of the extension table 
leaf is substantially coplanar with the main table leaf 
surface of the respective main table leaf; and then 
sliding the extension table member toward the respective 
main table leaf to bring the extension table leaf into 
registration with the main table leaf; and
pivoting end supports pivotally carried by the at least one 
main table leaf from a stowed position in which the end 
supports are generally parallel to the main table leaf 
surface to a support position in which the end supports 
are generally perpendicular to the main table leaf sur-
face.

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