

US 20070251010A1

(19) United States

(12) **Patent Application Publication** (10) **Pub. No.: US 2007/0251010 A1 Lara** (43) **Pub. Date:** Nov. 1, 2007

(54) MASSAGE TABLE

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(21) Appl. No.: 11/399,134

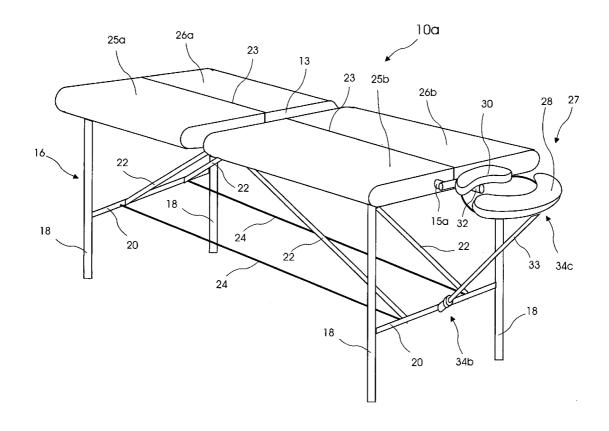
(22) Filed: Apr. 6, 2006

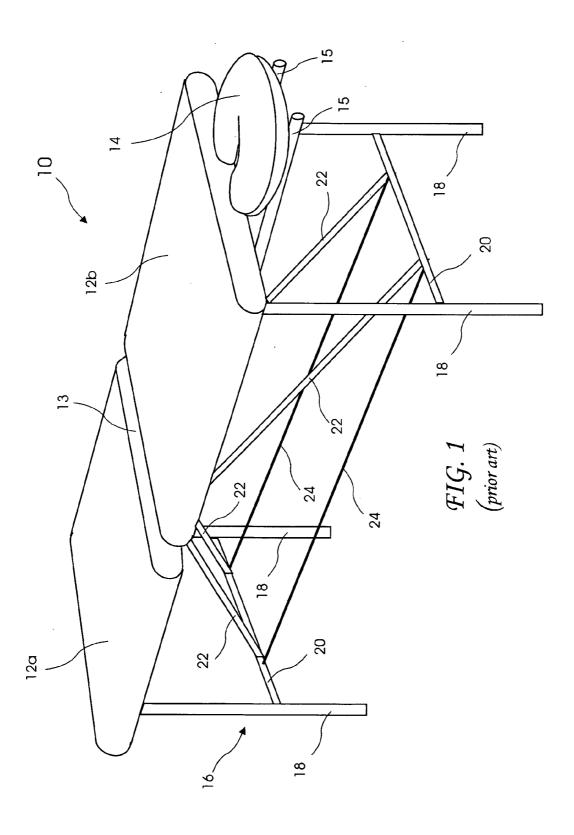
Publication Classification

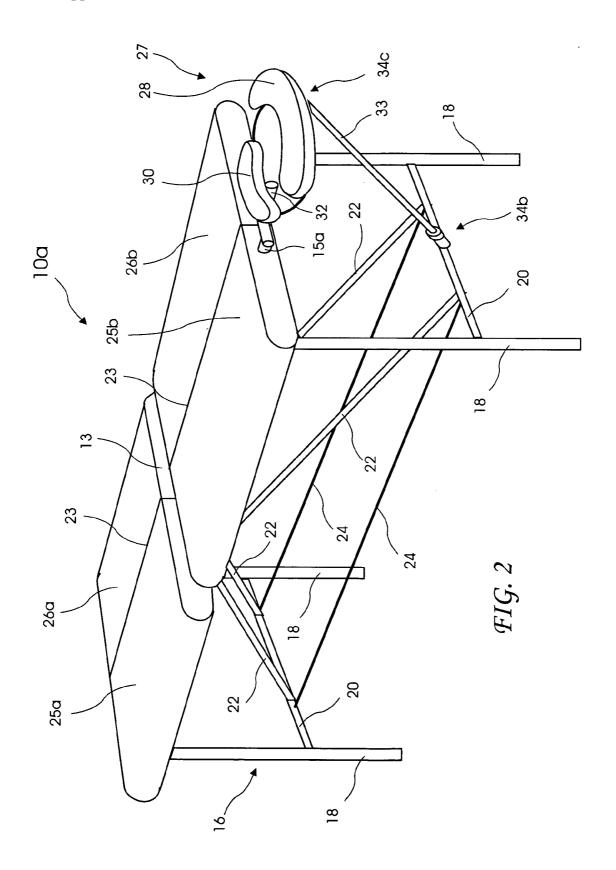
(51) **Int. Cl.**A47B 7/00 (2006.01)

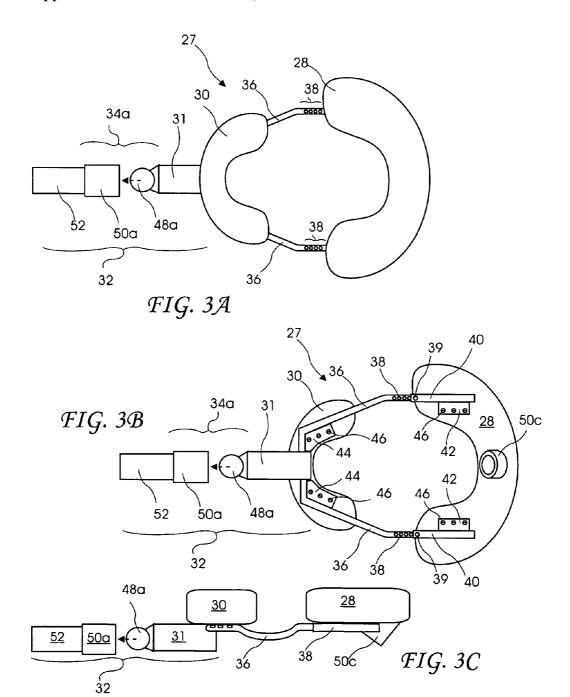
(57) ABSTRACT

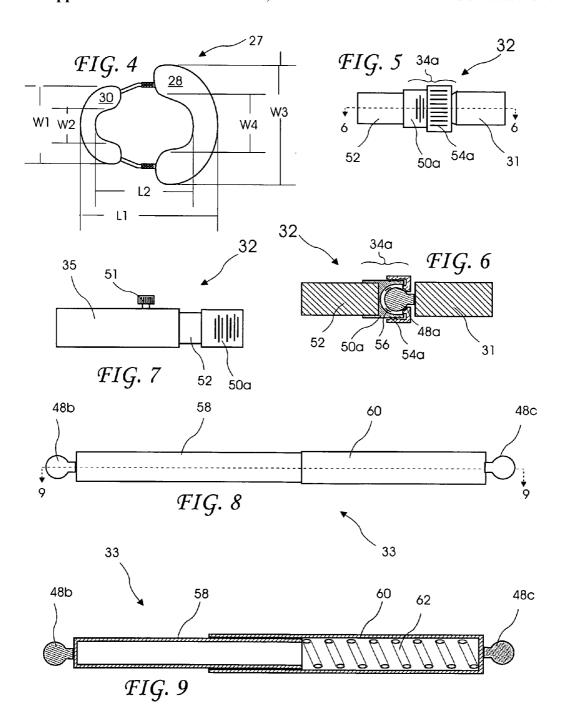
A massage table includes a two piece face cradle with a wide range of adjustment. The face cradle comprises a chin support and a forehead support. The chin and forehead supports are connected by rods which allow an open field-of-view to a patient lying prone on the massage table. The face cradle is connected to the massage table using a ball-joint providing a broad range of adjustability. A diagonal strut connected between the forehead support portion of the face cradle and the massage table and provide stability. The massage table may further have adjustable width by allowing the table to separate along a longitudinal axis and one or more leafs inserted into a gap between table halves.

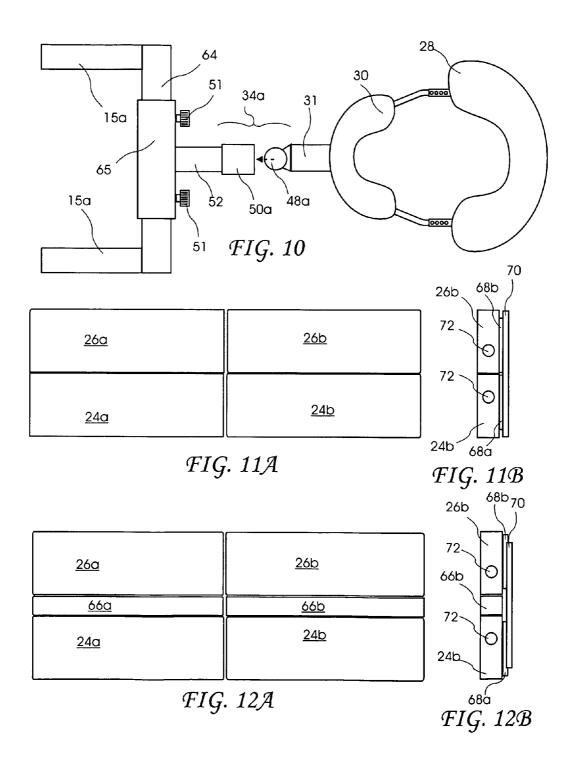












MASSAGE TABLE

BACKGROUND OF THE INVENTION

[0001] The present invention relates to massage tables and in particular to a massage table with an improved face cradle.

[0002] Massage tables are commonly used to support patients receiving massages. It is important to support the patient in a natural and comfortable manner to allow the patient to relax so that the patient's muscles may be worked to the greatest benefit. Such massages are generally received by patients laying in a prone position (i.e., face down) with the patient's face supported by a face cradle attached to one end of the massage table. Known face cradles may be adjusted in one dimension, either closer are farther from an end of the table. Such face cradle adjustment often does not provide adequate adjustment to allow the patient's head to be supported in a natural and comfortable manner. As a result, the patient may contract muscles and reduce the effectiveness of the massage.

[0003] Further, known face cradles comprise a substantially oval cushion which presents a tunnel-like field-of-view to the patient. A result is that some patients feel confined and therefore uncomfortable, and as a result have difficulty completely relaxing. Known massage tables may also lack sufficient width to comfortably support patients having large girth.

BRIEF SUMMARY OF THE INVENTION

[0004] The present invention addresses the above and other needs by providing a massage table which includes a two piece face cradle with a wide range of adjustment. The face cradle comprises a chin support and a forehead support. The chin and forehead supports are connected by rods which allow an open field-of-view to a patient lying prone on the massage table. The face cradle is connected to the massage table using a ball-joint providing a broad range of adjustability. A diagonal strut is connected between the forehead support portion of the face cradle and a table leg assembly of the massage table to provide stability. The massage table may further have adjustable width by allowing the table to separate along a longitudinal axis and one or more leafs inserted into a gap between table halves.

[0005] In accordance with one aspect of the invention, there is provided an improved massage table. The massage table includes a table top, a table leg assembly supporting the table top, and an adjustable face cradle. The face cradle includes an arced chin support, an arced forehead support, and two adjustable bars connecting the forehead support to the chin support. The adjustable bars provide adjustment of the separation of the forehead support from the chin support. A face cradle arm connects the face cradle to the table through a first ball joint, thereby allowing vertical and horizontal adjustment of the face cradle with respect to the table top. A telescoping diagonal brace is connected to the face cradle by a third ball joint at one end, and to the table leg assembly by a second ball joint at an opposite end. The telescoping diagonal brace includes a brace spring resisting compression of the diagonal brace.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[0006] The above and other aspects, features and advantages of the present invention will be more apparent from the

following more particular description thereof, presented in conjunction with the following drawings wherein:

[0007] FIG. 1 is a prior art massage table.

[0008] FIG. 2 is a massage table according to the present invention.

[0009] FIG. 3A is a top view of a face cradle according to the present invention.

[0010] FIG. 3B is a bottom view of the face cradle according to the present invention.

[0011] FIG. 3C is a side view of the face cradle according to the present invention.

[0012] FIG. 4 shows dimensions for the face cradle.

[0013] FIG. 5 shows a ball joint used to position the face cradle.

[0014] FIG. 6 is a cross-sectional view of the ball joint taken along line 6-6 of FIG. 5.

[0015] FIG. 7 is a telescoping apparatus for positioning the face cradle.

[0016] FIG. 8 is a side view of a diagonal brace according to the present invention for the face cradle.

[0017] FIG. 9 is a cross-sectional view of the diagonal brace taken along line 9-9 of FIG. 8.

[0018] FIG. 10 is a face cradle with mounting apparatus for known massage tables.

[0019] FIG. 11A is a top view of an expanding table top according to the present invention in a narrow position.

[0020] FIG. 11B is an end view of the expanding table top in the narrow position.

[0021] FIG. 12A is a top view of the expanding table top according to the present invention in an expanded position.

[0022] FIG. $12\mathrm{B}$ is an end view of the expanding table top in the expanded position.

[0023] Corresponding reference characters indicate corresponding components throughout the several views of the drawings.

DETAILED DESCRIPTION OF THE INVENTION

[0024] The following description is of the best mode presently contemplated for carrying out the invention. This description is not to be taken in a limiting sense, but is made merely for the purpose of describing one or more preferred embodiments of the invention. The scope of the invention should be determined with reference to the claims.

[0025] A prior art massage table 10 is shown in FIG. 1. The massage table 10 includes an oval or horseshoe shaped face cradle 14 attached to the massage table 10 by face cradle supports 15. The massage table 10 is preferably a portable and foldable table and includes table tops 12a and 12b comprising two cushions (or two cushion portions), wherein the table 10 folds at a junction 13 of the table tops 12a and 12b. The table 10 is supported by a table leg assembly 16 comprising legs 18, horizontal braces 20 residing laterally between pairs of the legs 18, diagonal braces 22 extending between the horizontal braces 20 to the table tops

12a and 12b at a point proximal to the junction 13. Cables 24 connect the horizontal braces and are in tension to prevent the table 10 from collapsing.

[0026] Unfortunately, the known face cradle 14 presents a closed or tunnel view to the patient. Such visual effect often is psychologically stressful and makes relaxing more difficult. As a result, the benefits from a massage are reduced. Further, known massage tables are generally about 30 inches wide. Some patients with large girth are not comfortably supported by such tables.

[0027] While the table 10 is described here with a single pair of cables 24, portable and foldable massage tables generally include a multiplicity of cables to ensure that the table does not collapse under the weight of a patient. An example of a portable and foldable massage table 10 is the Salon/Massage Combo table made by Pisces Productions in Sebastopol, Calif.

[0028] A massage table 10a according to the present invention is shown in FIG. 2. The massage table 10a preferably utilize a table leg assembly substantially similar to the massage table 10 (see FIG. 1) or may include any leg assembly suitable for a portable and foldable massage table. The table 10a includes a face cradle 27 according to the present invention. The face cradle 27 comprises a forehead support 28 and a separate chin support 30, both according to the present invention. The face cradle 27 is connected to the massage table 10a by second cradle supports 15a, and preferably receives additional support from a diagonal cradle support 33. The diagonal cradle support (or brace) 33 is preferably connected to the massage table 10a through a second ball joint 34b attached at a lower end of the brace 33 to the horizontal braces 20, and to the face cradle 27 through a third ball joint 34c (not shown) attached to an upper end of the brace 33. The table 10a includes right table tops 25aand 25b, and left table tops 26a and 26b. The table 10a is foldable at the junction 13 of the table tops 25a and 26a with the table tops 25b and 26b. Further, the table 10a is separable along a centerline 23 to allow the table 10a to be widened (i.e., an expandable table top), for large girth patients.

[0029] A top view of the face cradle 27 is shown in FIG. 3A, a bottom view of the face cradle 27 is shown in FIG. 3B, and a side view of the face cradle 27 is shown in FIG. 3C. The forehead support 28 is connected to the chin support 30 by bars 36. The face cradle 27 is preferably adjustable, wherein the bars 36 cooperate with adjusters 40 to adjust the separation of the forehead support 28 from the chin support 30. For example, the bars 36 may include first adjustment holes 38, and the adjusters 40 may include second adjustment holes 39. The holes 38 and 39 may be held in alignment by screws, pins, detents, etc. The holes may alternatively comprise a single hole in each bar 36 and a multiplicity of holes in the adjusters 40. The adjuster plates 42 are attached to the adjusters 40 and preferably to the forehead support 28 by screws 46. Bar plates 44 are attached to the bars 36 and to the chin supports 30, preferably by additional screws 46. The bars 36 are preferably bowed downward (see FIG. 3C) and therefore away from a patient's face to provide a more open feeling to the patient.

[0030] The face cradle arm 32 includes a first ball joint 34a to allow adjustment of the face cradle 27. A first ball 48a and ball extension 31 are connected to the chin support 30, and preferably connected to the bars 36 and/or the plates 44.

A first socket 50a cooperates with the ball 48a and is attached to a socket extension 52 which cooperates with the table through the second cradle supports 15a (see FIG. 10) or may be directly connected to the table. A third socket 50c is attached to the forehead support 28 to receive a third ball 48c residing on the upper end of the diagonal cradle support 33 (see FIGS. 8, 9). While the ball joint 34a is herein described having the ball 48a attached to the face cradle 27 and the socket 50a attached to the table, the ball 48a may alternatively be attached to the table and the socket 50a may be attached to the face cradle.

[0031] Preferred dimensions of the face cradle 27 are shown in FIG. 4. The chin support 30 has a first outside width W1 which is preferably approximately six inches and a second inside width W2 which is preferably approximately two inches. The forehead support 28 has a third outside width W3 which is preferably approximately nine inches and a fourth inside width W4 which is preferably approximately five inches. The outside length L1 of the forehead and chin supports 28 and 30 is preferably approximately eight inches, and the inside length L2 of the separation of the forehead and chin supports 28 and 30 is preferably approximately four inches. The face cradle 27 is further preferably adjustable to longer lengths, and is more preferably adjustable to lengthen by approximately ½ inches and by approximately one inch. Thus the inside length L2 may be adjusted to approximately four inches, to approximately 4½ inches, and to approximately five inches.

[0032] A side view of the face cradle arm 33 with the ball joint 34a used to position the face cradle is shown in FIG. 5 and a cross-sectional view of the face cradle arm 32 with the ball joint 34a taken along line 6-6 of FIG. 5 is shown in FIG. 6. A knurled cap 54a holds the ball 48a in the socket 50a. The cap 54a preferably includes inside threads, and the socket 50a preferably includes outside threads, which threads cooperate to hold the ball 48a in the socket 50a, and allow the ball joint 34a to be tightened to lock the ball 48a in position. The cap 54a preferably is a knurled cap to assist in hand tightening, but may also include features (for example, a hexagon shape) for using a wrench to tighten. A washer 56 may reside between the ball 48a and the socket **50***a* providing friction between the ball and socket to reduce slipping. The ball joints 34b and 34c are substantially similar to the ball joint 34a.

[0033] The present invention may further include telescoping apparatus for positioning the face cradle 27 with respect to an end of the table 10a, which telescoping apparatus is shown in FIG. 7. The socket extension 52 telescopingly cooperates with support extension 35 to adjust the face cradle position. The support extension 35 is preferably connected to the second cradle supports 15a or may connect directly to the table. A lock, for example a knurled screw 51, may be used to lock the position of the face cradle 27 with respect to the table, but any locking means is acceptable.

[0034] A side view of the diagonal brace 33 (see FIG. 2 also) is shown in FIG. 8, and a cross-sectional view of the diagonal brace taken along line 9-9 of FIG. 8 is shown in FIG. 9. The brace 33 includes an inner tube 58 in telescoping cooperation with outer tube 60. A spring 62 resides in the outer tube 60 and biases the inner tube 58 away from the outer tube 60. The spring 62 has a spring constant of

approximately 10 pounds per inch. Balls **48**b and **48**c are attached to opposite ends of the brace **33** for cooperation in ball sockets **50**b and **50**c (see FIGS. **2**, **3B**, **3C**). Alternatively, sockets may be attached to the ends of the brace **33**, and balls may be attached to the face cradle **27** and the table leg assembly **16** to provide ball joints.

[0035] A face cradle 27 with the second cradle supports 15a attached is shown in FIG. 10. The socket extension 52 is attached to a telescoping cross brace outer tube 65, and telescoping cross brace inner tubes 64 are attached to cradle supports 15a. The telescoping tubes 64, 65 allow the second cradle supports 15a to be adjusted in separation when necessary to cooperate with the table. Locks, for example a knurled screws, 51 may be used to lock the outer tube 65 with respect to the inner tubes 64.

[0036] A top view of the expandable table top comprising sections 24a, 24b, 26a, and 26b in a narrow (or closed) position is shown in FIG. 11A, and an end view of the expandable table top in the narrow position is shown in FIG. 11B. A top view of the expandable table top in an expanded position with leafs 66a and 66b residing between sections **24***a* and **24***b*, and **26***a* and **26***b*, is shown in FIG. **12**A, and an end view of the expandable table top in the expanded position is shown in FIG. 12B. The sections 24a, 24b, 26a, and 26b are preferably attached to runners 68a and 68bwhich cooperate with a guide 70 to allow lateral movement of the sections 24a and 24b, and 26a and 26b. The leafs 66a and 66b preferably include pins which engage the sections 24a and 24b, and 26a and 26b when the leafs are in place. Mounting holes 72 are provided for connecting the second cradle supports 15a to the sections 24b and 26b.

[0037] While the invention herein disclosed has been described by means of specific embodiments and applications thereof, numerous modifications and variations could be made thereto by those skilled in the art without departing from the scope of the invention set forth in the claims.

I claim:

- 1. A massage table comprising;
- a table top;
- a table leg assembly supporting the table top;
- a face cradle comprising:
 - a chin support;
 - a forehead support;
 - at least one bar connecting the forehead support to the chin support; and
- a face cradle arm connecting the face cradle to the table top through a first joint, the first joint allowing vertical and horizontal adjustment of the face cradle with respect to the table top.
- 2. The massage table of claim 1, wherein the first joint is a first ball joint.
- 3. The massage table of claim 1, further including a brace between the face cradle and the table legs.
- **4**. The massage table of claim 3, wherein the brace is a diagonal brace between the forehead support and the table leg assembly.
- 5. The massage table of claim 4, wherein the diagonal brace is connected to the table leg assembly by a second ball joint and to the forehead support by a third ball joint.

- **6**. The massage table of claim 5, wherein the diagonal brace is a telescoping diagonal brace having a brace spring resisting compression of the diagonal brace.
- 7. The massage table of claim 1, wherein the forehead support is arced to provide a comfortable resting place for a forehead.
- **8**. The massage table of claim 1, wherein the chin support is arced to provide a comfortable resting place for a chin.
- **9**. The massage table of claim 1, wherein the at least one bar comprises two bars residing on opposite side of the face cradle.
- 10. The massage table of claim 9, wherein the two bars comprise two bowed downward bars.
 - 11. The massage table of claim 1, wherein:
 - the table top comprises a right table top and a left table top:
 - the right table top and the left table top are connected to the table legs by sliding elements allowing the right table top and the left table top to slide laterally apart; and
 - the massage table includes at least one leaf which may reside between the right table top and the left table top to provide a wider massage table.
 - 12. A massage table comprising;
 - a table top;
 - a table leg assembly supporting the table top;
 - a face cradle comprising:
 - an arced chin support;
 - an arced forehead support;
 - two bars connecting the forehead support to the chin support;
 - a face cradle arm connecting the face cradle to the table top through a first ball joint, the first joint allowing vertical and horizontal adjustment of the face cradle with respect to the table top; and
 - a telescoping diagonal brace connected between the face cradle and the table leg assembly, and having a brace spring resisting compression of the diagonal brace.
- 13. The massage table of claim 12, wherein the diagonal brace is connected to the face cradle through a third ball joint.
- 14. The massage table of claim 13, wherein the diagonal brace is connected to the table leg assembly through a second ball joint
- **15**. The massage table of claim 13, wherein the separation of the forehead support from the chin support is adjustable.
- 16. The massage table of claim 13, wherein the diagonal brace is connected between the table leg assembly and the forehead support.
 - 17. A massage table comprising;
 - a table top;
 - a table leg assembly supporting the table top;
 - an adjustable face cradle comprising:
 - an arced chin support;
 - an arced forehead support;

- two adjustable bars connecting the forehead support to the chin support, the adjustable bars providing adjustment of the separation of the forehead support from the chin support;
- a face cradle arm connecting the face cradle to the table top through a first ball joint, the first ball joint allowing vertical and horizontal adjustment of the face cradle with respect to the table top; and
- a telescoping diagonal brace connected at a first end to the forehead support by a third ball joint and to the table leg
- assembly at a second end opposite the first end, and having a brace spring resisting compression of the diagonal brace.
- **18**. The massage table of claim 17, wherein the table top is a laterally expandable table top.
- 19. The massage table of claim 17, wherein the laterally expandable table top comprises laterally separable sections and at least one leaf to fill a gap between the section.

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