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(71) Applicant: **Naranjo Delgado, Sergio**
13300 Valdepeñas (ES)

(72) Inventor: **Naranjo Delgado, Sergio**
13300 Valdepeñas (ES)

(74) Representative: **Elzaburu S.L.P.**
Miguel Angel 21, 2nd floor
28010 Madrid (ES)

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(54) **FOLDING STRETCHER**

(57) A folding massage table comprising three modules (1', 1'', 1''') hinged together and configured to fold forming a stacked assembly; the central module (1') comprises on one side a first hinge (2) lined up with its lower part and on the opposite side a second hinge (3) from which half the thickness of the central module hangs(1'); the central module 5 (1') comprises two trestles (10), an inside one and an outside one, and each trestle (10) com-

prises two legs (4) with hinged joints (5) at their ends, so that the trestles (10) are configured to be collected in the same plane; the side modules (1'', 1''') have a trestle at their ends (10), each with two legs (4); the trestles (10) are reinforced by eight longitudinal braces (11) that hold the legs (4) to a base of the bed and by four cross braces (12), each cross brace (12) between the two legs (4) of each trestle (10).

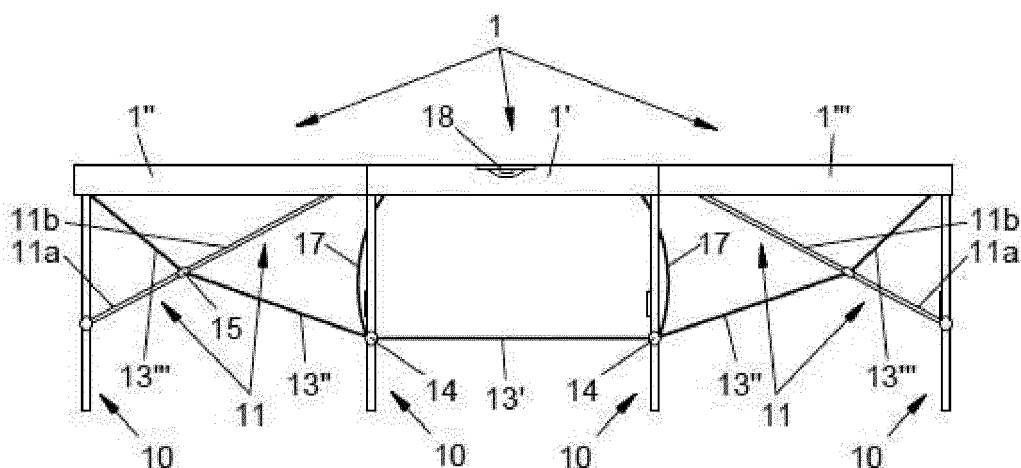


FIG. 1

Description

Object of the invention

[0001] The present invention aims at a folding massage table that allows its transport in a folded, compact and ergonomic shape, for example carrying it on the back while driving or riding a motorcycle.

[0002] The folding table object of the present invention has a unique application in the field of the industry dedicated to the design, manufacture and marketing of machines and devices for physiotherapy, massage and medical-sports rehabilitation.

Background of the invention and technical problems to be solved

[0003] There is currently a need to provide home physiotherapeutic care, and specialists need to move with their equipment to the client's home. In regard to this equipment, the massage table has a fundamental role, which is usually the element of higher weight and the most voluminous. On the other hand, displacement within cities by private car is increasingly complicated and expensive, and using public transport is uncomfortable with this type of objects of high weight and volume, in addition to usually requiring a very frequent investment of time until reaching the destination. As a result of this, there is a tendency to use small motorcycles, scooters or bicycles to make the displacements.

[0004] Massage tables have a length of about 1.8 meters, current folding massage tables are formed by two pieces hinged to the center, so it is in two 90 cm pieces, which is still too bulky and uncomfortable to transport.

[0005] Documents US 2015/0196446 A1 and US 4943041 A describe tables of the type previously mentioned. The device is also known according to the document US 2014/0190371 A1, which folds into four parts and, in this way, reduces the dimension of each element; however, when stacked into four parts, it results in a deep-set folding, in detriment to ergonomics and the ease of transport.

[0006] These folding tables are supported on the floor by four legs at the ends, leaving a huge overhang, which, taking into account the weight they must bear and the efforts to which they are subjected to during the massage, makes these stretchers result in many cases too unstable and not very rigid. To solve it, the most common thing is to place braces in different configurations to stiffen the assembly. Documents US 6192809 B1 and US 6431086 B1 describe tables such as those just described.

[0007] Thus, the present invention solves the problem of having a light, rigid table, with little bulky fold, easy and fast folding/unfolding, while still ergonomic in its folded configuration, to facilitate the transport of the folded table on the back while riding a motorcycle, for example.

Description of the invention

[0008] In order to solve the aforementioned drawbacks, this invention refers to a folding massage table.

5 [0009] To avoid a bulkier size of the parts and a bigger thickness of the assembly, the table folds into three parts or modules, which have a similar size.

[0010] The central module has hinges on one of its sides whose axis is levelled with the lower part of the module and on the opposite side the hinges have the axis displaced half of the thickness of the module.

[0011] This arrangement allows the stacking of the three parts without the hinges affecting the padded area or bothering the patient.

15 [0012] The stability of the set is achieved by incorporating four legs to the central module so that the overhang is minimal.

[0013] According to a possible arrangement, in said central module, the legs on the feet area are closer together than those in the upper area to allow folding into a single layer of height.

[0014] According to another possible arrangement, in said central module, the legs closer to the feet area are more separated from each other than the legs closer to the head area. This allows the folding of the four legs of the central module into one single layer of height so that when said four legs are fully folded, they don't stick out below the thickness of the central module.

25 [0015] According to a possible arrangement, the legs are telescopic to regulate the height, and they form pairs by means of a brace (horizontal or transverse brace) in their fixed portion, facilitating folding and increasing lateral rigidity. According to a possible embodiment, each leg is collected by a standard compass with a safety opening that prevents involuntary closing and provides longitudinal stiffness.

[0016] Thus, each pair of legs joined by a brace (horizontal or transverse brace) form a trestle. The central module comprises two trestles (a trestle with the most separated legs (outer stand) and another trestle with the legs closer together (inside stand)).

[0017] Each side module comprises another trestle.

[0018] The trestles are reinforced with eight longitudinal braces that hold the legs to the base of the stretcher.

45 [0019] Once folded, the set has a carry handle and, preferably, it also has a shoulder strap so that it can be moved comfortably. Every module has some support elements (or bumps) on their sides so that they allow the assembly to be placed sideways on the floor without damaging the upholstery while performing the folding or unfolding.

[0020] The longitudinal braces are arranged on each side module of the stretcher, grouped in sets of two longitudinal braces, so that each set of two longitudinal braces join each leg to the base of the table, wherein each set, a first brace is articulated at one end to a leg and the other end to a second brace; and the second brace is articulated at one end to the first brace and the other end

to the base of the table.

[0021] According to the preferred embodiment of the invention, the folding table comprises a set of tensors that extend longitudinally along the folding table in the open position. These tensors are configured to give stability to the folding table when legs, braces and table base are connected to each other.

[0022] Preferably, the set of longitudinal tensors comprises:

- two central tensors that join, at their corresponding points of attachment, each leg of the trestle of the central module closest to a side module with the corresponding leg from the trestle of the central module closest to the other side module;
- four intermediate tensors, where each intermediate tensor joins a junction point of a central tensor with an area close to the articulated joint of a first brace and a second brace of the side modules, and;
- four end tensors, where each end tensor joins an area close to the articulated joint of each first brace and every second brace to an area close to the hinged junction of each leg with the base of the table.

[0023] Also, preferably, the folding table also has four vertical tensors that connect the junction points (or an area close to the junction points) of each leg of the central module (the junction points where the central tensors are connected) with an area in the proximity of each hinged joint of each leg of the central module.

[0024] According to a possible embodiment of the invention, the folding table comprises a plurality of lateral support extensions located on at least four of the legs of the table and configured to be unfolded from an area near the end of the leg intended to be in contact with the ground.

[0025] According to a preferred arrangement, the folding table comprises armrest accessories, configured to be attached in a removable way to the sides of the central module.

[0026] For transport by bicycle, motorcycle or scooter, a backpack that is placed on the back is preferably arranged. For reasons of ergonomics, the backpacks are placed slightly above the waist; so, when we sit on the seat of the vehicle, a regular backpack would not rest on the seat, transmitting all movements to the shoulders during circulation. To avoid this, according to a possible embodiment, the backpack proposal has a bump or base supplement on its lower part and out of contact with the back so that it rests on the vehicle seat, transferring most part of the load and the vibrations from the back to the seat.

Brief description of the figures

[0027] As part of the explanation of at least one em-

bodiment of the invention, the following figures have been included.

Figure 1: Shows a side profile view of a preferred embodiment of the folding table in an extended position.

Figure 2: Shows a side profile view of the folding table of Figure 1, with the folded supports.

Figure 3: Shows a bottom (or reverse) view of the folding table of Figure 1, where the arrangement of the hinges is observed.

Figure 4: Shows a bottom view of the folding table of Figure 3, where folded legs are observed.

Figure 5: Shows a front profile view of the folding table of Figure 1, with the legs spread out.

Figure 6: Shows a front profile view of the folding table of Figure 1, with the legs folded up.

Figure 7: Shows a top view (or the front) of the folding table 5 of Figure 1, where the front side of the table is observed.

Figure 8: Shows profile and front views of the folding table of Figure 1, in the folded position, where the handle and the strap can be observed.

Figure 9: Shows profile and front views of the folding table of Figure 1, in folded position, where the fastenings of the backpack are observed.

Figure 10: Shows profile and front views of the folding table of Figure 1, in a folded position, where the table is being carried by a user.

Figure 11: Shows a side profile view of an alternative embodiment of the folding table, in the deployed position.

Figure 12: Shows a bottom view of the folding table of Figure 11, where the folded legs are observed.

Figure 13: Shows a bottom (or reverse) view of the folding table of Figure 11, where the arrangement of the hinges is observed.

Figure 14: Shows a front profile view of the folding table, according to Figure 5, where lateral support extensions are observed.

Detailed description

[0028] The present invention relates, as mentioned above, to a folding massage table.

[0029] The portable folding table object of the invention is composed of three modules (1) hinged together (Figure 3), so that when said modules are folded (1), there is a stacked set (Figures 8 and 9).

[0030] The central module (1') has on one side a first hinge (2) lined up with its lower part and on the opposite side a second hinge (3) where half of the thickness of the central module hangs (1').

[0031] The central module (1') of the stretcher has four legs (4) with hinged joints (5) at its ends, forming two pairs, one inside the other, to be folded in the same plane.

[0032] The modules (1) have a protrusion on their sides (6) that prevent the contact of the upholstery with the floor.

[0033] The portable folding table folds from the upper side module (1'') (where the head hole is located) over the central module (1') and then the side lower module (1''') folds over both (1'', 1') through the first lined up hinge (2) forming a closed and portable assembly (Figures 8 and 9).

[0034] A handle (7) and/or strap (8) (Figure 8) can be incorporated to the folding table for transport, as well as straps can be added to use it as a backpack (9) (Figure 9).

[0035] The portable folding table has four trestles (10) with two legs (4) each (eight legs in total (4), joined by hinged joints (5) to the base of the table), placing two trestles (10) in the central module (1') and each of the remaining trestles (10) at the longitudinal end of the table, reinforced in its deployment by eight longitudinal braces (11) at the base of the table to enhance stability, and between the legs (4) by cross (12) or horizontal braces. As "base of the table" it should be understood the body of the modules (1) the lower or reverse part of the body of the modules (1).

[0036] The longitudinal braces (11) are preferably arranged on each side module (or end) of the table, that is, on the side modules corresponding to the head (1') and the feet (1'''). There are two sets of two longitudinal braces (11) each, where each set joins each leg (4) to the body of each side module (1'', 1''') (to the base of the table), so that, preferably, on each set a first strap (11a) is articulated at one end to a leg (4) (preferably in the middle of said leg (4) farther from the body of the side module (1', 1''') in an extended position) and at another end to a second brace (11b), by means of an articulated joint (15); on the other hand, the second brace (11b) is articulated at one end to the first brace (11a) and at another end to the body of the side module (1'', 1''') (at the base of the table) (preferably in proximity to the joint hinged from said lateral module (1'', 1''') to the central module (1')).

[0037] Additionally, the folding table has a set of tensors (13) (or tensor cables) to strengthen the stability of the table in the deployed position. These tensors (13) are placed after unfolding the table and extending the legs (4). In a folded position of the table, the tensors (13) can be stored inside the modules (1).

[0038] Preferably, the tensors (13) extend longitudinal-

ly and/or vertically to the folding table length in the deployed position.

[0039] Two central tensors (13') join each leg (4) of the trestle (10) of the central module (1') closer to a side module (1') (e.g. the module corresponding to the head) with the leg (4) corresponding to the trestle (10) of the central module (1') closest to the other 5 side module

[0040] (1'') (e.g. the module corresponding to the feet). In Figure 1, being a profile side view, only one of the two central tensors (13') is observed. Preferably as shown in Figure 1, the junction points (14) of each central tensor (13') with the corresponding legs (4) are located in the middle of each leg (4) furthest from the body of the central module (1') (with the legs in the extended position). These junction points (14) can be made using eyebolts, rings, carabiners, etc.

[0041] From the point of attachment (14) of each central tensor (13') with the corresponding leg (4), an intermediate tensor (13'') joins said junction point (14), to the articulated joint (15) (with an area close to the articulated joint (15)) of each first brace (11a) and every second brace (11b) of the side modules (1'', 1'''). There is a total of four intermediate tensors (13''). In Figure 1, being a side profile view, only two of the four intermediate tensors are observed (13''). The intermediate tensors (13'') join to the articulated unit (15) or to an area close to the articulated joint (15), for example by eyebolts, rings, carabiners, etc.

[0042] Also, from the articulated joint (15) of each first brace (11a) and every second brace (11b), an end tensor (13''') joins said articulated joint (15) to the hinged joint (5) (or with an area close to the hinged joint (5)) of each leg (4) of each side module (1'', 1''') to the body of each side module (1', 1'''). There is a total of four extreme tensors (13'''). In Figure 1, being a side profile view, only two of the four extreme tensors (13''') are observed. The extreme tensors (13''') join to the hinged joint (5) or with an area close to the hinged joint (5), for example by eyebolts, rings, carabiners, etc.

[0043] Finally, according to a possible embodiment of the folding table, vertical tensors (17) connect each junction point (14) to an area close to the joints hinges (5) of the central module (1').

[0044] According to a possible embodiment, the folding table incorporates lateral support (Figure 14) extensions (16). Said lateral extensions (16) are preferably located on the legs (4) of each side module (1'', 1''') (although they can also be incorporated into the legs (4) of the central module (1')). Said lateral extensions (16) play a side stand function, providing lateral stability to the folding table so that the table can resist lateral movements better that occur during a massage session or physiotherapy.

[0045] The lateral extensions (16) extend from an area close to the end of the leg (4) in contact with the floor (with the table unfolded and the legs extended) to the floor, providing an additional support point to the table.

[0046] According to a possible embodiment, the table

comprises armrest accessories (18) configured to be attached (using threaded rod, clip, magnets, or any other means) to one side of the central module (1') of the folding table. Such armrest accessories (18) are shown only in Figures 1 and 3.

[0047] It is understood that, if they do not alter the nature of the invention, variations in materials, shape, size and arrangement of the elements are susceptible to variation within the same characterization. The terms used during the description and the sense of it should always be considered in a non-limiting manner.

Claims

1. A folding massage table **characterized by** comprising a central module (1') and two side modules (1", 1""), the three modules (1', 1", 1'') being hinged together and configured to fold forming a stacked assembly; where the central module (1') comprises on one side a first hinge (2) lined up with its lower part and on one opposite side comprises a second hinge (3) from which half the thickness of the central module hangs(1'); where the central module (1') comprises two trestles (10), an inside one and an outside one, and where each stand (10) comprises two legs (4) with hinged joints (5) at the ends, so that the stands (10) are configured to be folded in the same plane; where the side modules (1", 1'') have a trestle (10) at their ends, each with two legs (4); where the stands (10) are reinforced by eight longitudinal braces (11) that hold the legs (4) to the base of the bed and by four cross braces (12), each cross brace (12) between the two legs (4) of each trestle (10).
2. A folding massage table according to claim 1, characterized so as the modules (1', 1", 1'') include protuberances on their sides (6) that prevent the contact of the upholstery of the module (1', 1", 1'') with the ground.
3. A folding massage table according to any of the preceding claims, characterized because the legs (4) are telescopic to regulate their height.
4. A folding massage table according to any of the preceding claims, characterized because the longitudinal braces (11) are arranged on each side module (1", 1'') of the stretcher, grouped in sets of two braces (11), such that each set of two braces (11) join each leg (4) to the base of the table, wherein each set, a first strap (11a) is articulated at one end to a leg (4) and another end to a second brace (11b) by means of an articulated joint (15); and the second brace (11b) is articulated on one end to the first strap (11a) and at another end to the base of the table.
5. A folding massage table according to any of the pre-

ceding claims, characterized because it comprises a set of tensors (13) that extend longitudinally along the foldable table in the deployed position, where said tensors (13) are configured to give stability to the foldable table by connecting legs (4), braces (11) and base of the table.

6. A folding table according to claims 4 and 5, characterized because it comprises:
 - two central tensors (13") that join, at their corresponding junction points (14), each leg (4) of the trestle (10) of the central module (1') closest to a lateral module 5 (1") with the corresponding leg (4) of the trestle (10) of the central module (1') closest to the other side module (1'');
 - four intermediate tensors (13"), where each intermediate tensor (13") joins a point of connection (14) of a central tensor (13") with an area close to the articulated joint (15) of the first brace (11a) and the second brace (11b) of the side modules (1", 1''), and;
 - four extreme tensors (13""), where each extreme tensor (13'') joins an area close to the articulated joint (15) of each first brace (11a) and each second brace (11b) to an area in proximity to a hinged joint (5) of each leg (4) with the base of the table.
7. A folding massage table according to claim 6, characterized because it comprises four vertical tensors (17) that connect the junction points (14) of each leg (4) of the central module(1') with an area in the proximity to each hinged joint (5) of each leg (4) of the characterized module (1').
8. A folding massage table according to any of the preceding claims, characterized because it comprises a plurality of lateral support extensions (16) located in at least four of the legs (4) of the table and configured to be deployed from one area near the end of the leg (4) intended to be in contact with the ground.
9. A folding massage table according to any of the preceding claims, characterized because it is configured to fold forming a backpack.
10. A folding massage table according to claim 9, characterized because the backpack comprises, on the lower part, a supplement base configured to rest on the seat of a vehicle when the backpack is carried by a user sitting in said vehicle.
11. A folding massage table according to any of the claims 9 or 10, characterized because the backpack comprises a handle (7) and/or transport straps (8, 9) for the shoulders of the user.

12. A folding massage table according to any of the preceding claims, characterized because it includes armrest accessories (18), configured to be attached in a removable way to the sides of the central module (1').

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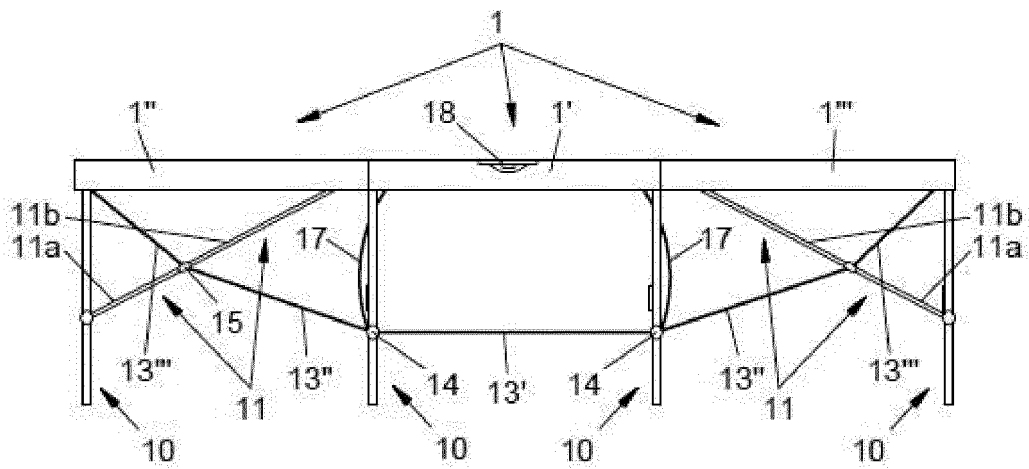


FIG. 1

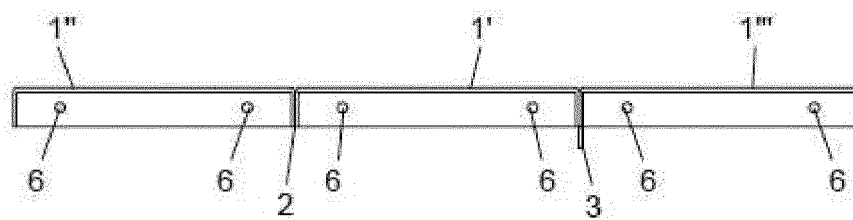


FIG. 2

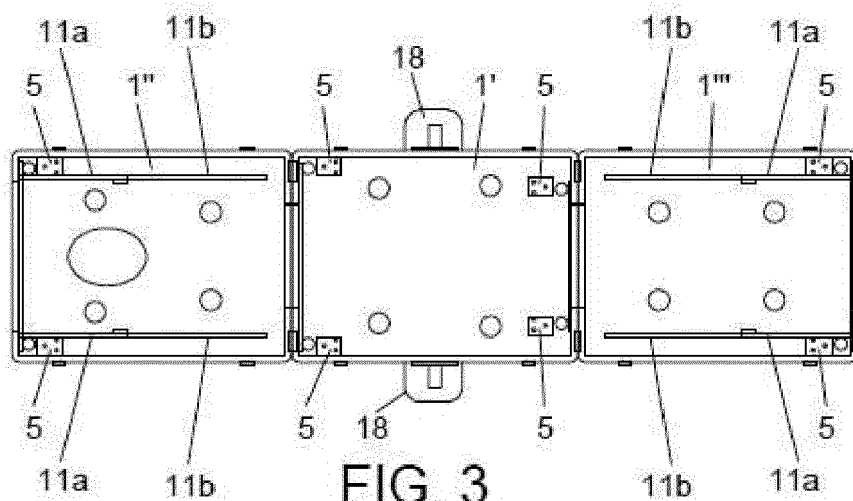


FIG. 3

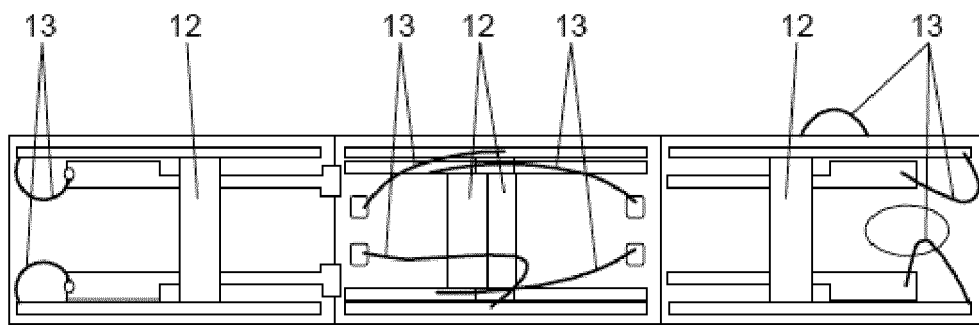


FIG. 4

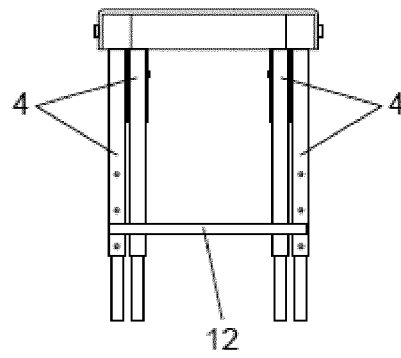


FIG. 5



FIG. 6

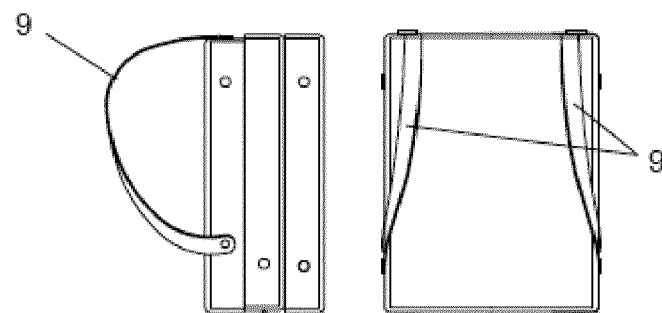
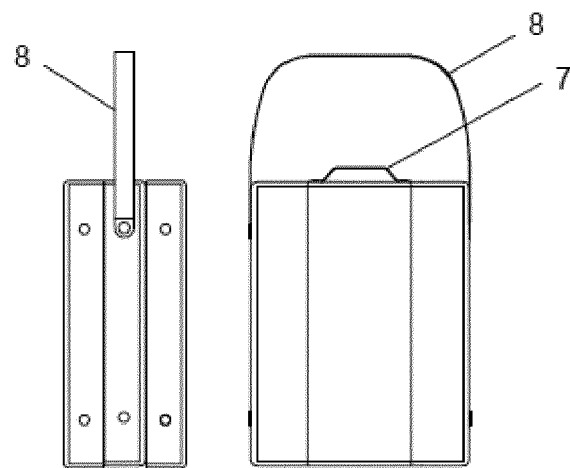
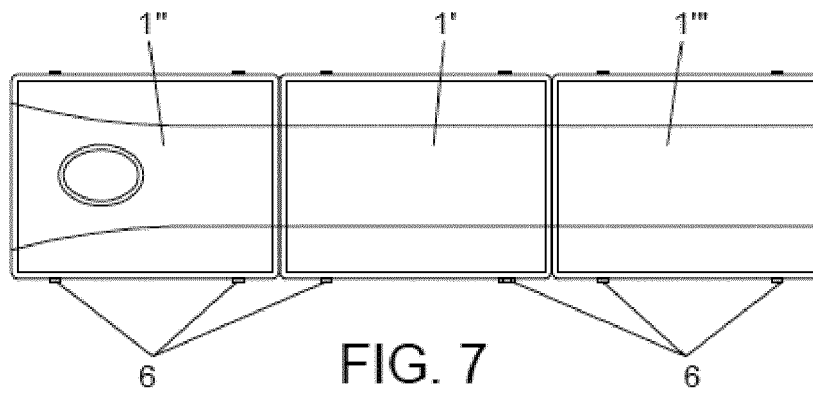


FIG. 9

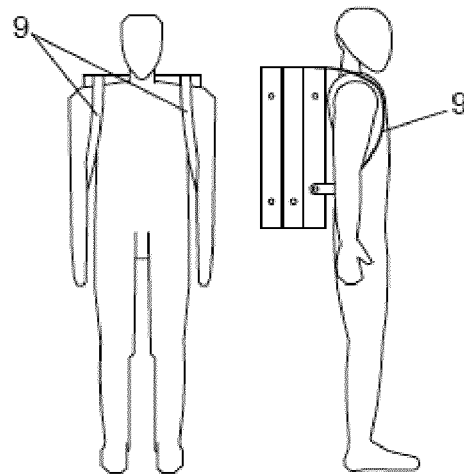


FIG. 10

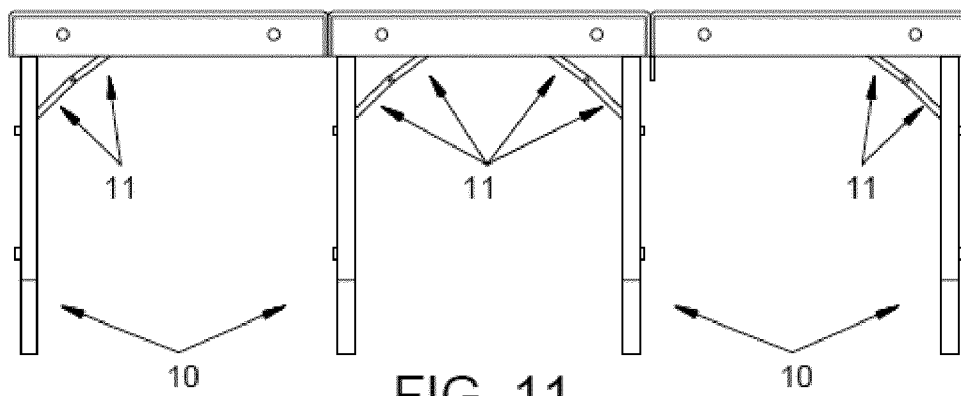


FIG. 11

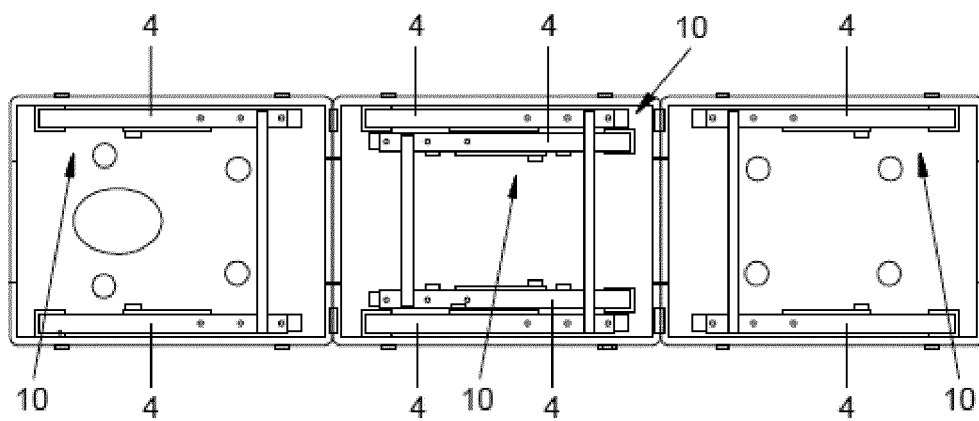


FIG. 12

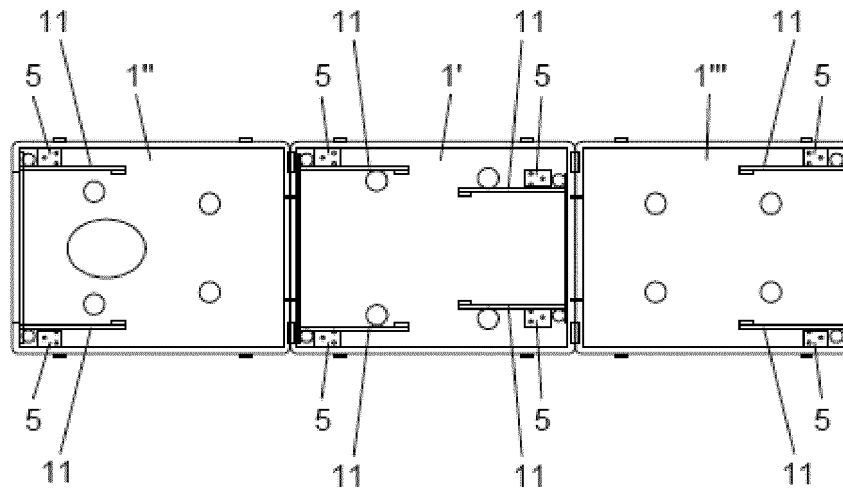


FIG. 13

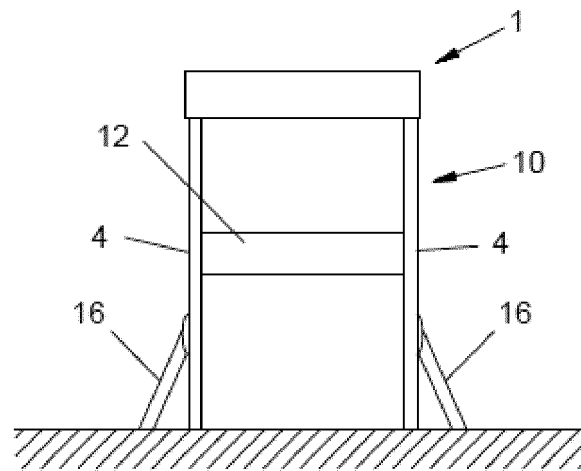


FIG. 14



EUROPEAN SEARCH REPORT

Application Number
EP 19 38 2723

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 17 April 2020	Examiner Gkama, Alexandra
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 19 38 2723

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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