DEVICE FOR SUPPORTING HOSPITAL PATIENTS AND FOR THE SUPPORT OF ARTICLES FOR TRANSPORTATION

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Fig. 3

Fig. 4

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FIGURE 5 is a perspective view of the device illustrated in FIGURES 1 to 4, inclusive.

FIGURE 6 is an enlarged fragmentary perspective view illustrating a resilient pad forming a part of the invention.

FIGURE 7 is a fragmentary sectional view taken along line 7—7 of FIGURE 6, and

FIGURE 8 is a view similar to FIGURE 6 but showing a modification of the invention.

Referring more particularly to the drawings, there is shown therein a rectangular base 10 having vertical standards 11, 12, 13 and 14 extending respectively from each corner of the base 10. A circular guide 15 is affixed by bolts 16 or the like to the standards 11 and 12 and a like guide 17 is affixed to the standards 13 and 14 in parallel relation thereto.

An annular member 18 is rotatably mounted in the guide 15 and a like annular member 19 is rotatably mounted in the guide 17. Four locking cleats 20 provided with thumb screws 21 are affixed to the guide 15 to maintain the annular member 18 in selected positions therein while a like number of locking cleats 22 are affixed to the guide 17 and provided with thumb screws 23 for maintaining the annular member 19 in selected positions in the guide 17. It is obvious that other mechanical arrangements can be made, e.g., set screws can be used in place of thumb screws 21, etc.

Four shafts 24, 25, 26 and 27 are rotatably mounted in and interconnect the annular members 18 and 19 in circumferentially spaced relation to one another, the shafts extending through the annular member 18 and terminating in discs 28, 29, 30 and 31, respectively. Each of the discs is provided with an eccentrically mounted handle 32 and a set screw 33 extends therethrough to bear against the annular member 18. A pair of support rods 34 rigidly interconnect the annular members 18 and 19.

Rotatably mounted upon each of the shafts 24, 25, 26 and 27, is a series of collars 35 in end-to-end relationship. Straps 36 interconnect with collars on the shafts 24 and 25 and extend generally laterally of the device in spaced relation to one another while straps 37 interconnect with collars on the shafts 26 and 27. The collars 35 are each adjustably positionable with respect to their respective shafts by means of thumb-screws 38 or the like. The straps 36, it will be seen, interleave the straps 37, each series extending through the other, as will be seen, for example, in FIGURES 1 and 2, in looped arrangement. As viewed in FIGURE 2, the undersides of the straps 36 and the upper sides of the straps 37 are each centrally provided with a pad 39, which extends, in each case, laterally approximately the width of one strap, whereby to fill in an area unsupported by said straps. Other strap designs can be used so as to provide a continuous surface, such as that shown in FIG. 8 wherein an enlarged portion 39a is provided in the strap 36.

It will be apparent to one skilled in the art that the device is to be of such strength and size as to be appropriate to the object to be supported. The supporting straps will be of such strength, resiliency and construction to serve the purpose whether it be to support a human, animal or manufactured object. For example, the straps would be padded for human support or reinforced with metal wire to support a heavy object.

The straps 36 are interconnected with the collars as indicated above by any suitable means known to the art. As shown in FIGURE 4, the straps are overlapped several turns to provide for such interlocking.

In operation, it will be apparent that the body of a hospital patient 40 or an object to be transported or supported is to be secured by means of the straps 36, and that the annular members 18 and 19 and the annular bushings are to be secured by means of the collar 35.
over the body as shown in FIGS. 1 and 2 to completely turned, as above indicated, may be placed upon the straps 36 whereupon the device may be used as an ordinary bed. However, the straps 37 may then be positioned hold the body. The collars 35 may be adjusted to, in turn, adjust any particular strap 36 or 37 to snugly hold the body 40. Now, if it is desired to inspect or operate upon any part of the body, the cleats 30 may be loosened and the annular members 18 and 19 together with their attached mechanisms including the shafts and straps may be revolved in the guides 15 and 17 to any desired position throughout 360° and then locked in such position by the screws 21. Again, if it is desired to provide access to a particular portion of the body 40 for any purpose, it is only necessary to remove one of the straps 36 or 37 at the area desired.

It may also be pointed out that a patient 40 or other body may be inserted thru either end of device by first loosening both or either set of straps 36 and 37 by means of the handles 32 and thereafter again bringing the straps together by the same means and thereafter locking them in desired position by means of the screws 33. It will also be seen that the pads 29 acts to provide a more comfortable area for those portions of the straps which come into contact with the human body while at the same time providing additional insurance against jarring when the device is used for transporting delicate mechanisms such as, for example, missiles or the like. The device, it will likewise be apparent, lends itself ideally to use by patients in ‘iron’ lungs, or handling helpless or paralyzed patients or one whose condition is such that other means of turning, rotating or transporting the patient is extremely hazardous to the patient.

While but one form of the invention has been shown and described herein, it will be readily apparent to those skilled in the art that many minor modifications may be made without departing from the spirit of the invention or the scope of the appended claims. For example, it would be possible for straps to fasten to the shafts 180° apart, e.g. strap 36 to shafts 24 and 27 while strap 37 is affixed to shafts 25 and 26. It is also obvious that the pad or filler 39 can extend an equal distance on either side of strap 36 and that configurations other than angular can be used.

What is claimed is:
1. A device of the character described comprising a frame, a pair of circular guide members mounted in said frame, a circular support member rotatably mounted in each of said guide members, two pairs of shafts interconnecting said support members, and two series of transversely extending spaced straps, each series interconnecting a separate pair of shafts, the straps of each series extending between adjacent straps of the other series.
2. A device of the character described comprising a frame, a pair of circular guide members mounted in said frame, a circular support member rotatably mounted in each of said guide members, two pairs of shafts interconnecting said support members, two series of transversely extending spaced straps, each series extending between adjacent straps of the other series, and means for latching said support members to said guide members.
3. A device of the character described comprising a frame, a pair of circular guide members mounted in said frame, a circular support member rotatably mounted in each of said guide members, two pairs of shafts interconnecting said support members, two series of transversely extending spaced straps, each series alternately interconnecting a separate pair of shafts, the straps of each series extending between adjacent straps of the other series, and means for adjusting the effective length of each series of straps.
4. A device as defined in claim 3 wherein said last-named means comprises a disc affixed at each of the adjacent ends of said shafts, a handle eccentrically affixed to each of said discs, and a screw extending through each of said discs and adapted to bear against the adjacent support member.
5. A device of the character described comprising a frame, a pair of circular guide members mounted in said frame, a circular support member rotatably mounted in each of said guide members, two pairs of shafts interconnecting said support members, and two series of transversely extending spaced straps, each series alternately interconnecting a separate pair of shafts, the straps of each series extending between adjacent straps of the other series, and means for adjusting the effective length of each of said straps.
6. A device as defined in claim 5 wherein said last-named means comprises a collar affixed to each end of each of said shafts, said collars being rotatably mounted on their respective shafts, and a screw extending through each collar and adapted to bear against its associated shaft.
7. A device of the character described comprising a frame, a pair of circular guide members mounted in said frame, a circular support member rotatably mounted in each of said guide members, two pairs of shafts interconnecting said support members, two series of transversely extending spaced straps, each series alternately interconnecting a separate pair of shafts, the straps of each series extending between adjacent straps of the other series, and a support pad extending laterally from the central portion of each of said straps.
8. A device as defined in claim 7 wherein said pad extends laterally substantially the width of said strap.

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