PORTABLE TRAY SUPPORT

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ABSTRACT

This disclosure is of a portable supporting construction primarily devised for use on or in connection with beds or wheel chairs, which construction includes a single support member having a mounting device at each end, which devices include means to facilitate rotative movement of the support member into various positions, in which positions the member may be locked, the member having adjustable means thereon which will engage a tray or the like, whereby the tray may be pivoted with the member and removed when desired, the tray or the like thus being angularly positioned with respect to the area over which it is supported when in use.

7 Claims, 9 Drawing Figures
PORTABLE TRAY SUPPORT

OBJECTS OF THE INVENTION

It is a primary object of this invention to provide means for supporting a tray in a hospital and on a bed or other area in which a patient is positioned, which means can provide for tilting of a tray or the like into various locked positions, the mechanism involving instrumentalties incorporated therein which will facilitate positioning and removing the entire device from the area where it is supported as conditions may require.

It is a further object of this invention to provide a device of the class described in which a support member is provided, and tray-like articles supported thereon, the member having mounting devices which engage some portion of the area over which the article is to be supported, and providing for rotative movement of the support member, whereby the tray may be locked in a series of various positions whether horizontal, vertical or upside down as the case may be, the locking of the tray in the various positions being simply effected.

A further object of the invention is to provide construction of the class described wherein the support member is itself adjustable as to length, is carried in a mounting device at each end which facilitates rotation of the member, construction of the mounting devices being such as to provide for locking the support member in various positions and yet readily facilitating adjustment of said member into those rotating positions, with suitable means for connecting a tray to the member and which are adjustable along the member so that various positions of the patient may be taken into account.

Other and further objects of the invention will be understood from a consideration of the specification appended hereto and disclosed in the drawings wherein:

FIG. 1 is a perspective view showing the general manner in which the construction hereof may be mounted and supported, in relation to a hospital bed or the like, with

FIG. 2 A is a fragmentary sectional view of one end of the construction showing the support member and mounting device in which the same is supported as well as means for connecting a tray-like article to the mounting member.

FIG. 2 B is a similar view to connector 2 A but of the other end of the support member and showing a mounting device of the opposite hand or reversed, with the end of the support member engaged therewith and additionally further portion of the means for supporting the tray-like article.

FIG. 3 is a fragmentary view partly in section taken about on the line 3—3 of FIG. 2 A looking in the direction of the arrows.

FIG. 4 is fragmentary sectional view taken about the line 4—4 of FIG. 2 A looking in the direction of the arrows.

FIG. 5 is a view similar to FIG. 4 with a different angular relationship of the means for connecting a tray-like means to the support member.

FIG. 6 is a fragmentary partly sectional view taken about on the line 6—6 of FIG. 2 A looking in the direction of the arrows.

FIG. 7 is a view of a portion of the locking instrumentalties required in the mounting device.

FIG. 8 is a perspective view showing one of the means for connecting a tray-like means to the support member to further illustrate the manner of positioning a tray with regard thereto.

DESCRIPTION OF THE INVENTION

Referring now initially to FIG. 1, the support construction of this invention is shown as the same as positioned over a hospital bed generally designated 1 of conventional construction having headboards 2 at opposite ends and pivotal side guard structures 3 at opposite sides of the bed 1.

This invention is shown as supported on a side guard structure 3 and with a tray 4 carried thereby, the tray 4 being in turn mounted on a support member 5 by means of connecting means generally designated 6 at opposite sides of the tray 4, the support member 5 in turn being carried by a mounting device such as 7 at opposite ends which engages the rail 3 in each case.

For greater detail, FIGS. 2A 2B are now referred to, it being appreciated that these when placed in alignment will provide the structure extending transversely of the bed 1 as indicated and described generally herebefore.

Referring now specifically to FIG. 2A, the support member 5 is shown as comprising a rectangular, tubular body 8, of any preferred length, which may extend from side to side of the bed for example or alternatively may be provided with an intermediate section 8c which is itself rectangular, and of the same size tubing as the body 8, having anteriorly and fixed therein, a male section 8b.

This section 8b is intended to be received within the tubular part 8 as indicated in FIG. 2A, and has a female section 8c at the opposite end which is indicated in FIG. 2B which is intended to receive a mating rectangular male portion 8d.

Thus by making the part 8a of any preferred length, the span of the member 5 may be varied to accommodate for different widths of beds or even to support the construction on a wheel chair by removing section 8a as the case may be, since if the 8a is removed the male member 8d will fit within the part 8 in the same manner as the part 8b, as shown in the figures.

For the sake of further description herein, it will be considered that the support member 5 is one part and extends from side to side having at opposite ends, cylindrical trunnion portions 9 and 10 fastened thereto, for example by welding as shown at 11 and 12 respectively.

It will thus be apparent that rotation of the member 5 may be effected and it will rotate the parts 9 and 10 in locking devices generally designated 13 and 14 respectively.

It will first of all be observed that these devices are intended to be identical but arranged in the views so as to extend in opposite directions, having at their lower extremities U-shaped portions 15 and 16 respectively.

These members 15 and 16 may engage the longitudinal rails of the side guard members 3 as suggested in FIG. 1.

The mounting device 13 is provided at its upper end with a socket 17, the upper end of the device 14 being provided with a similar socket 18 fastened thereto. These sockets 17 and 18 receive the trunnion members 9 and 10 respectively.
It should be explained that the end of the body 8 of the mounting member 5 extends beyond the trunnion member 9 as suggested at 9a in FIG. 2A and at 10a in FIG. 2B.

These respective portions 9a and 10a are adapted to engage with portions of lock instrumentalities which include the members 19 and 20, shaped along lines, indicated in FIG. 7 wherein the interior of such members is formed to receive the extremity 9a for example in several different rotative positions and maintain the same in those positions by reason of the configuration of this part 19.

It will thus be understood as the disclosure of FIG. 2A reveals, the member 5 is locked in a horizontal position so to speak but can be located and locked in the 45° position provided by the formation of the part 19 for example.

In order to maintain the member 5 in its connected and locked position the socket 18 is equipped with a suitable spring 21 which engages with the end of the trunnion member 10 and around the rectangular section 10a, causing the member 10 and thereby the member 5 connected therewith to be biased toward the left as viewed in FIG. 2B.

When it is desired to rotate the support member 5, said member is grasped and forced rightwardly against the pressure of the spring 21, the end 9a being thereby withdrawn from the member 19, rotation thereafter being effected when pressure is released on member 5, spring 21 will cause support member 5 to move leftwardly into locked position such as shown in FIG. 2A.

While the support member 5 is constructed so as to exert spring pressure on the mounting device which are located at opposite ends for locking and rotative positioning of such support member, it will be noted that this is also operative to maintain the entire device in place on rails of guard members such as 3 for example.

In turn this will likewise facilitate removal therefrom by grasping one or the other of the devices 13 or 14 and compressing the spring 21. Thus one of the U-shaped members 15 or 16 may be disengaged from the rail on which it is seated.

In order to support a tray or the like on the support member 5, connecting means in the form of saddle-like parts 23 are provided, as which are indicated in FIG. 8 are pieces of rectangular tubing suitably cut and of a size to fit over the support member 5, and permit sliding of the same along said member.

On the upper surface of the saddle members 23 are rail parts 24, with mating rail members 25 fastened at the opposite edges of the tray 4, which will thus slide along the parts 24 and be positioned in respect thereto in locked relationship.

A suitable stop member such as 27 may be provided on one of the members 25 so that the tray can only move in one direction with respect to the rail parts 24.

It will be observed from the foregoing that even with the tray in position it can be moved from side to side along the support member 5 irrespective of the patient's position in the bed and suitably arranged with respect thereto.

The tray may be removed when desired by sliding the members 25 out of the rails 24 and some other article substituted therefor when circumstances may suggest this be done.

The construction hereof is also intended to be supported on any type of longitudinal parallel or substantially parallel rails which might lend themselves to this arrangement whether it be a hospital bed, wheel chair or similar place.

1 claim:

1. In portable construction of the class described, in combination, a support member, a tray-like means carried thereby, a mounting device at each end of the member, said devices including means providing for rotative movement of the member, instrumentalities to lock said member in various rotative positions and means connecting the tray-like means to said member, said connecting means being adjustable transversely along the support member and interengaged therewith for rotation thereby, whereby the means will be rotated simultaneously with the support member.

2. Construction as claimed in claim 1, wherein the support member is a rectangular bar, and the instrumentalities to lock the member comprise a socket in one of the devices to receive an end of said member and to lock the same in various rotative positions around said bar, means being provided to selectively maintain said member in one of said positions.

3. Construction as claimed in claim 2, wherein the other of said devices includes spring means to maintain the end of the member in a selected position in the said socket.

4. Construction as claimed in claim 1, wherein the mounting devices are adapted to engage rails at opposite sides of a bed and the lock instrumentalities maintain said devices in engagement with such rails.

5. Construction as claimed in claim 4, wherein the mounting devices include U-shaped parts to engage such rails, and the lock instrumentalities exert outward pressure to maintain such parts in releasable supporting engagement with such rails.

6. Construction as claimed in claim 4, wherein each of the devices includes inwardly directed sockets at the upper extremity to receive one end of the support member, the lower extremity of each having an outwardly directed U-shaped part to engage a rail at one side of a bed.

7. Construction as claimed in claim 2, wherein the support member is adjustable in length to accommodate different spacings of bed or like rails.

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