June 23, 1936. R. F. CARPENTER 2,045,007

CURTAIN SUSPENSION DEVICE

Filed Jan. 17, 1935

Fig. 1.

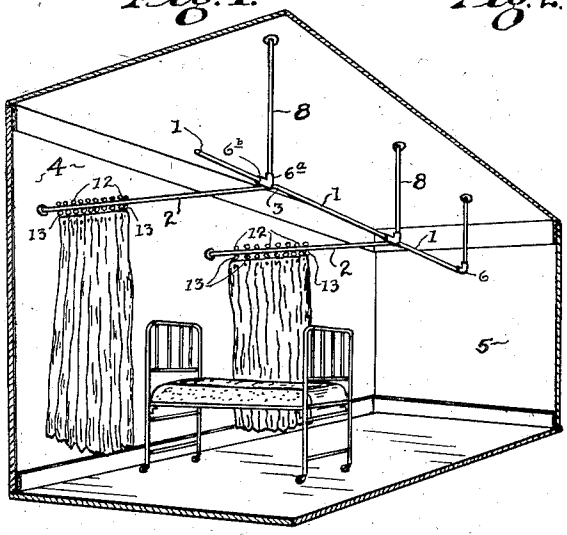


Fig. 2.

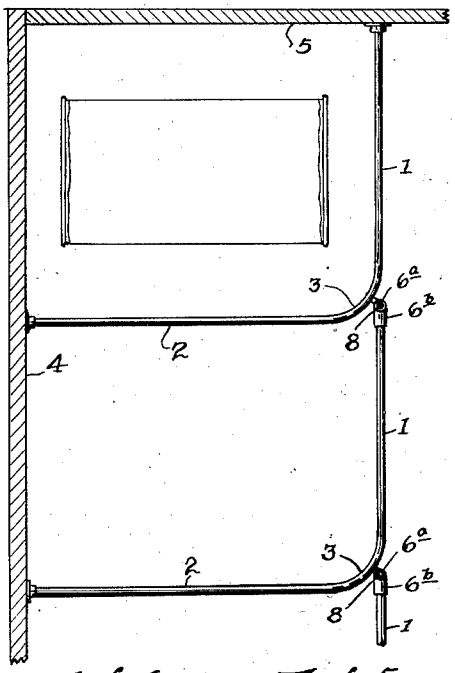


Fig. 3.

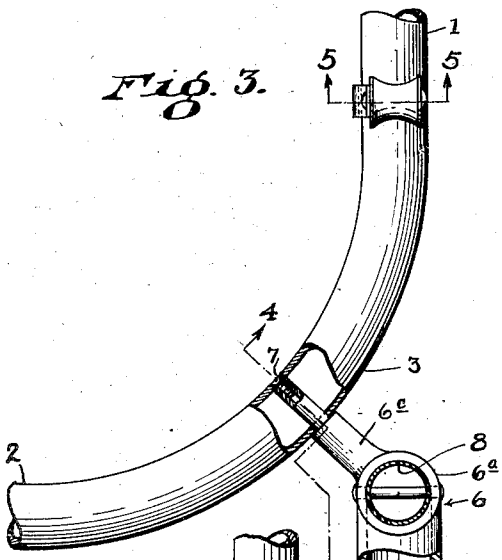


Fig. 4.

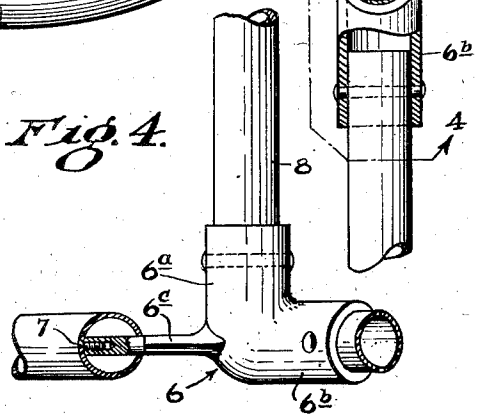


Fig. 6.

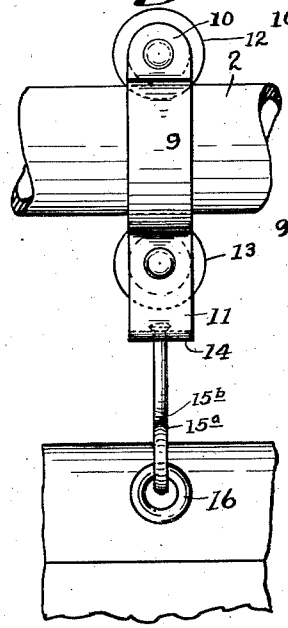
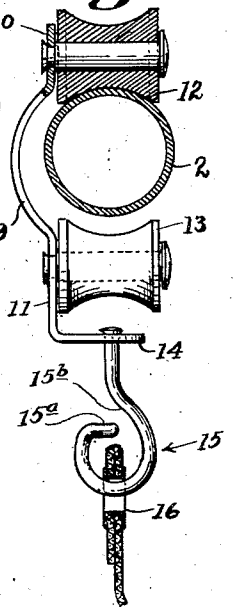


Fig. 5.



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CURTAIN SUSPENSION DEVICE

Robert F. Carpenter, Cleveland, Ohio

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8 Claims. (Cl. 156—20)

This invention relates to an improved curtain-supporting structure for use in hospital wards, shower baths, dressing rooms, beauty parlors, etc.

It has heretofore been common practice to employ curtains as a means of forming private compartments in hospital wards and there have been numerous attempts to improve the manner of mounting the curtains upon their supporting rods so as to facilitate the closing and opening of the same.

In some of these prior attempts, separate curtains have been employed for the sides and ends of the individual compartments but it is more desirable to employ a single curtain for this purpose. The use of a single curtain affords greater privacy and also presents a neater appearance, but the prior attempts to employ a single curtain in this connection have not been eminently successful.

The object of the present invention therefore is to devise a means for supporting a curtain upon the rod or rail so that it may be conveniently opened and closed without any danger of dislodgement of the curtain from the supporting rail and without any danger of binding or other hindering action during the opening and closing operations.

Another object consists in devising a suspension means for the curtain which can be readily applied to or removed from the rod or nail upon which the same is supported.

A further object consists in devising an improved supporting structure upon which the curtain is suspended, this supporting structure being readily assembled and contributing to the facility with which the curtain-suspending means may be applied thereto and manipulated thereupon during opening and closing movements of the curtain.

Other objects will appear from the following description and claims when considered together with the accompanying drawing.

Fig. 1 is a partial perspective view of a hospital ward and illustrates generally the application of the present invention;

Fig. 2 is a partial plan view illustrating the same general assembly;

Fig. 3 is a plan view of a part of the assembly illustrated in Fig. 2 with parts broken away;

Figs. 4 and 5 are views taken on line 4—4 and 5—5, respectively, of Fig. 3; and

Fig. 6 is a view taken at 90° to that of Fig. 5 and illustrates the curtain-suspending means in elevation.

It is to be understood that the present disclosure is merely for purposes of illustration and that various other modifications and variations may be made without departing from the spirit of the present invention as herein set forth and claimed.

In my present structure, I have provided an integral or one-piece tubing comprising the end portion 1, the side portion 2 and the middle curved portion 3. The end of the side portion 2 is affixed to the vertical wall 4 of the ward and the same thing is true of that end of the end portion 1 which is affixed to the end wall 5 of the ward in the case of the compartment which is located at the end of the ward.

As a means of connecting the curtain-supporting structure of adjacent compartments, I have provided the joint member 6 which has a vertically disposed arm 6^a and a horizontally disposed arm 6^b and a laterally extending projection 6^c, the reduced end portion of which extends through the curved portion 3 and is secured therein by means of the screw 7. The projection 6^c extends in such manner that it is normal to the tangent at the middle point of curved portion 3.

With this arrangement, it will be seen that the portion 6^b of the joint member 6 is in substantial alignment with the end portion 1 and is adapted to receive the end of the end portion 1 which is employed in connection with the adjacent compartment. The vertically disposed portion 6^a of the joint member 6 is adapted to receive the lower end of the vertically disposed hanger rod 8 which is attached to the ceiling. Bolts or pins may be employed for securing the tubular members within the projection 6^a and 6^b of the joint member 6.

It is to be noted that the joint member 6 is applied to the outside of the horizontally disposed tubular member and that the head of the screw 7 is counter-sunk in each case so as not to interfere with the smooth inner surface of the curved portion 3 of the horizontally disposed tubular member.

It will be observed also that the top and bottom of the portions 1 and 2 as well as the intermediate portion 3 are also unobstructed and are adapted to cooperate with the curtain-suspending means now to be described. The means for suspending the curtain in each case comprises a more or less flexible strap member, the middle portion of which is bowed, as indicated by reference numeral 9, and which has the adjoining flat portions 10 and 11 upon which are mounted the concaved rollers 12 and 13 to be arranged above and below the horizontally disposed tubular member,

as clearly indicated in the drawing. The lower end portion of the flexible strap member extends at substantially right angles to the portion 11 so as to be disposed beneath the roller 13, as indicated by reference numeral 14. Suspended from the portion 14 is the swivelled hook member 15 which is adapted to extend through the eyelet 16 provided at the top edge of the curtain for suspending the same.

The inturned end portion 15a of the hook terminates at a point beneath the shoulder 15b so as to minimize the danger of the eyelets becoming accidentally removed from the hook. If so desired, the end portion of the hook may be bent outwardly so as to facilitate engagement of the eyelets of the curtain therewith, while at the same time the bent end portion would prevent accidental removal of the eyelets therefrom.

It will be observed that the bowed portion 9 is of substantially the same curvature as that of the tubular member, that the curvature of the concave rollers is the same as that of the tube, and also that the minimum distance between the upper and lower companion rollers is slightly less than the diameter or the maximum dimension of the tubular member to which the rollers are applied. This may be referred to as a convex-concave form of engagement. Although the strap member is quite stiff and rigid, yet the flexibility afforded by the bowed portion 9 is sufficient to permit the roller members to be applied laterally to the tubular member at any point thereof by merely pressing the same thereagainst and snapping the rollers into place above and below the tubular member. When in assembly, the lower roller is normally spaced from the rod, as seen in the drawing.

Any number of these curtain-suspending carriages, as just described, may be provided and, as indicated in the drawing, they are applied to the inner side of the horizontally disposed tubular member. Also, the curvature of the intermediate portion 3 is such that these curtain-suspending attachments may be rolled about the curved portion 3 with the greatest facility. Thus, a single curtain may be employed to enclose the end and side of a compartment and the compartment may be entirely opened by rolling the curtain entirely to the rear end of the side portion 2 or to the far end of the end portion 1.

During the opening and closing movements of the curtain, no particular care need be observed so far as the curtain-suspending means is concerned for there is no danger of the rollers being accidentally removed from the horizontally disposed rod upon which they are supported. The curtain-suspension carriages may be cocked either lengthwise or laterally of the tubular member without causing any dislodgement of the same therefrom. Also, there will be no binding of the suspension members against the tubular member during any such cocking of the same. This advantageous result is due to the provision of the rollers both above and below the tubular support and the manner of mounting the same thereupon. The curtain carriages may be turned laterally about the rod; and in case of cocking the carriages lengthwise of the rod, the lower rollers will engage the same and thereby afford a rolling engagement which does not interfere with the movement of the carriage along the rod.

Thus, with my device, the curtain-suspension means may be easily and quickly applied laterally to the support therefor and may be manipulated with the greatest ease while at the same time there is afforded the greatest possible assurance against accidental dislodgement or displacement of the suspension means from its support. There is thus obtained an efficient manner of operation while at the same time there is produced an increased efficiency and improved appearance.

It is to be understood also that in case it should be desired to provide a single isolated compartment which is entirely disassociated from any other compartment, this may be done by providing a single or one-piece U-shaped tubular member comprising the two sides and end portion, this member having its ends attached to the wall of the ward and having both corner portions between the sides and end curved in the manner herein indicated. In this case, a single curtain could be employed for enclosing all three sides of the compartment while the wall of the ward constitutes the other side thereof.

It is also possible to employ my present invention in connection with a single isolated compartment which is to be enclosed entirely with a single curtain. In such a case, the horizontally disposed tubular support will be provided in a closed circular form suspended from the ceiling by means of brackets similar to the joint members 6. In this case, a single curtain may be suspended in the same manner as herein indicated and may serve to enclose the entire compartment.

The above suggested modifications are believed to be obvious from the present disclosure and are to be understood as being comprehended within the scope of the present invention as set forth in the following claims.

In the following claims, the sides and end of a compartment are referred to by the generic term "sides", as a matter of convenience.

What I claim is:

1. In a curtain-supporting structure, a curtain carriage adapted to be supported upon a rod, said carriage having a roller adapted to be supported upon the top surface of the rod for rolling engagement thereupon and having a roller adapted to be arranged beneath said rod and an arm upon which said rollers are mounted.

2. In a curtain-supporting structure, a curtain carriage adapted to be supported upon a rod, said carriage having an arm upon which the curtain is suspended and rollers mounted upon said arm and adapted to be vertically arranged above and below the rod, and the rod and rollers being provided with convex-concave means of interengagement.

3. In a curtain-supporting structure, a curtain carriage adapted to be supported upon a convex rod, said carriage having a resilient arm upon which the curtain is suspended, and concave rollers mounted upon said arm and adapted to be vertically arranged above and below the rod and being adapted for engagement with the top and bottom portions of the rod, and the space between the rollers at their ends being slightly less than the greatest vertical dimension of the rod, the resilience of said arm permitting the rollers to be applied to the rod.

4. In a curtain-supporting structure, a curtain carriage adapted to be supported upon a cylindrical rod, said carriage having a resilient arm which is bowed about the side of the rod and upon which the curtain is suspended, and concave rollers mounted upon said arm and adapted to be vertically arranged above and below the rod and being adapted for engagement with the top and bottom portions of said rod, and the space be-

tween the rollers at their ends being slightly less than the diameter of the rod, the resilience of said arm permitting the rollers to be applied to the rod.

5. In a curtain-supporting structure, a curtain carriage adapted to be supported upon a cylindrical rod, said carriage having a vertically disposed resilient arm which has its middle part bowed so as to extend about the side of the rod and which has vertically extending flat portions for mounting the rollers thereupon and a laterally extending portion at the lower end thereof for suspension of the curtain, and concave rollers mounted upon said flat portions and adapted to be arranged above and below the rod and being adapted for engagement with the top and bottom portions of the rod, and the space between the rollers between their ends being slightly less than the diameter of the rod, the resilience of said arm permitting the rollers to be applied to the rod.

6. In a curtain-supporting structure, a curtain carriage adapted to be arranged upon the inside of a single rod and comprising a flexible arm upon which the curtain is suspended and rollers mounted upon said arm and adapted to have convex-concave engagement with the rod and adapted to be arranged above and below the rod and being adapted for rolling engagement with the top and bottom of the rod, and the minimum distance between said upper and lower rollers being slightly less than the maximum vertical dimensions of the rod, the resilience of said arm permitting the rollers to be applied laterally to the rod.

7. In a device of the class described, a curtain hook comprising a vertically depending shank portion and a substantially curved portion formed as a continuation of said shank portion, said curved portion terminating in a laterally inturned end portion which is adapted to receive the eyelet of a curtain and prevent accidental dislodgement of the same from the hook.

8. In a device of the class described, a curtain hook comprising a vertically depending shank portion and a substantially curved portion formed as a continuation of said shank portion, said curved portion terminating in an inwardly turned end portion which extends beneath said shank portion and is adapted to receive the eyelet of a curtain and prevent accidental dislodgement of the same from the hook.

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