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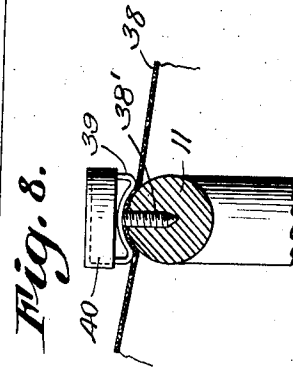
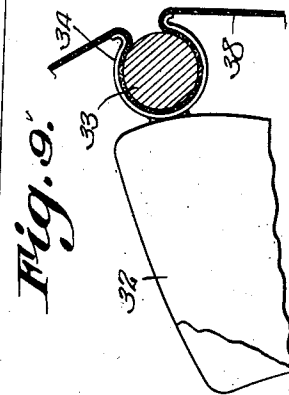
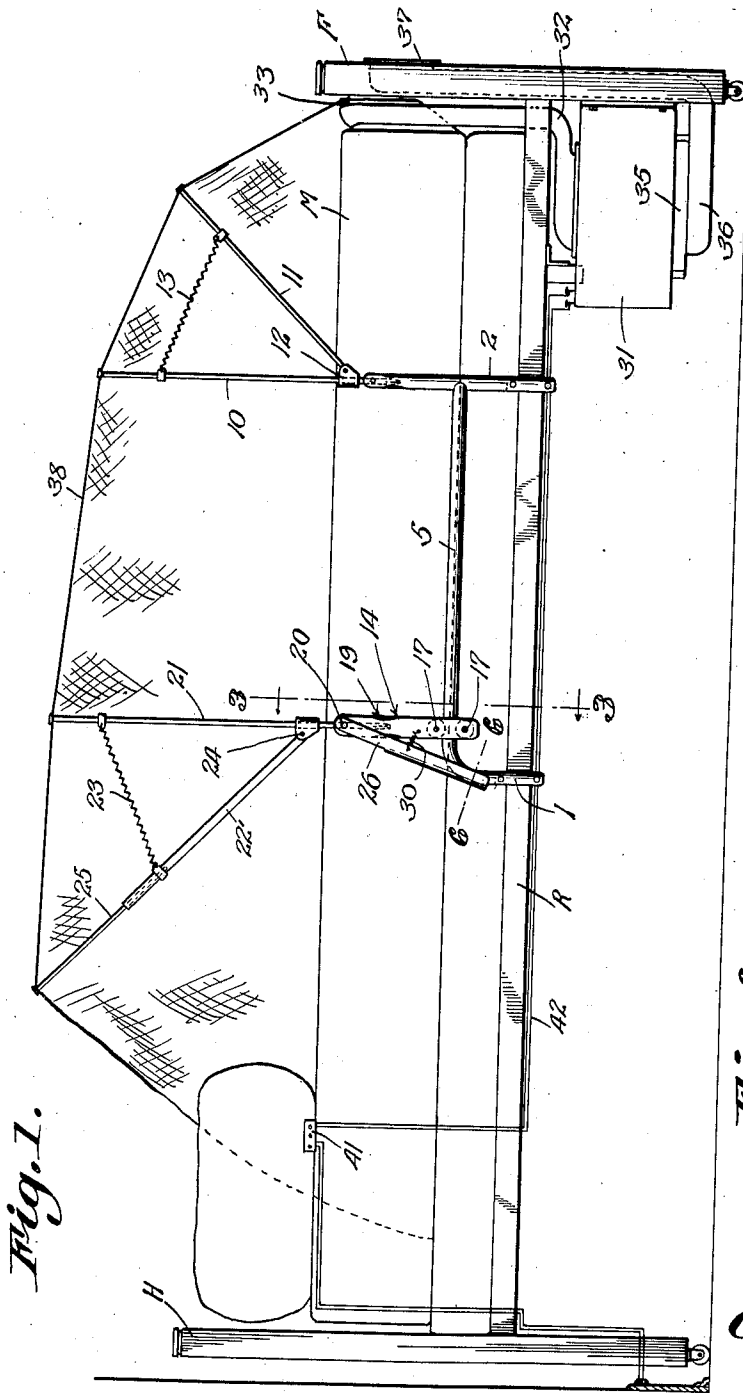
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2,191,024

AIR CONDITIONED CANOPY FOR BEDS

Filed April 15, 1938

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 2.

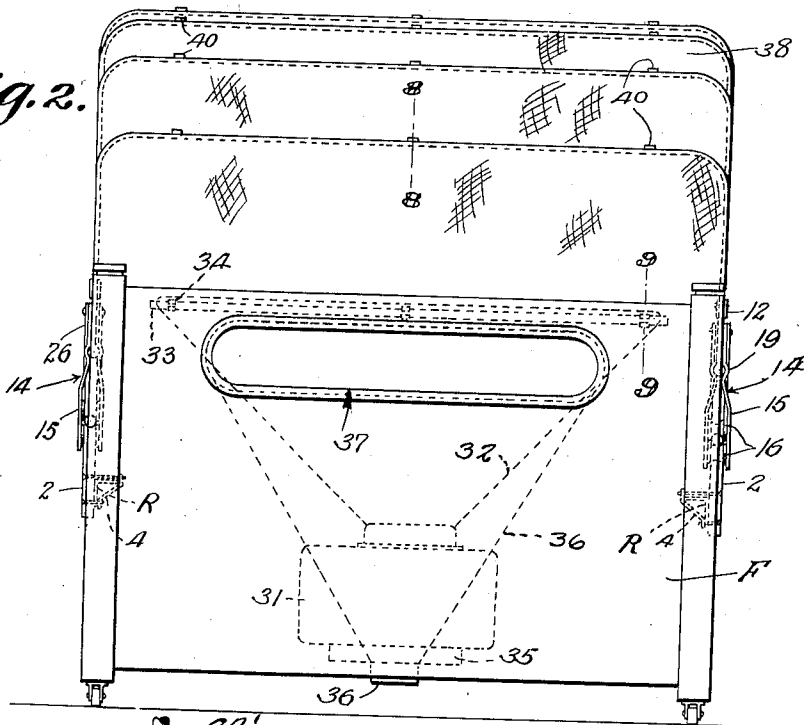


Fig. 3.

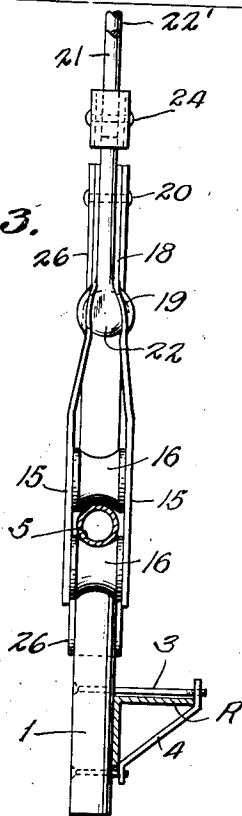


Fig. 5.



Fig. 7.

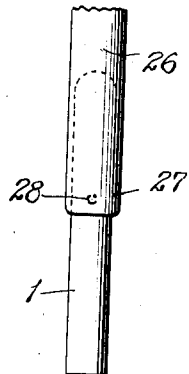


Fig. 4.

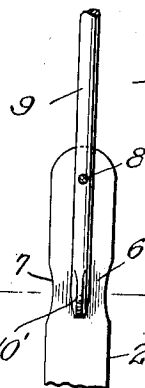


Fig. 6.



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UNITED STATES PATENT OFFICE

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AIR CONDITIONED CANOPY FOR BEDS

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Application April 15, 1938, Serial No. 202,303

4 Claims. (Cl. 135-5.2)

This invention relates to a means whereby the occupant of a bed can be kept at an approximate predetermined temperature without the annoyance and discomfort due to close contact with and support of the bed coverings.

It is a fact well known that the weight of bed coverings interferes with the sleep of many persons and more especially those suffering from certain ailments. Furthermore contact of the coverings with the body is objectionable because of unsanitary conditions resulting from the absorption of heat and body secretions.

An object of the present invention is to provide a canopy of new and novel construction for use either in the home or in hospitals, which forms a complete housing for the body of the person on the bed and at the same time relieves the body from the weight of the covering.

A further object is to provide a device of this character which can be applied readily to a bed and has associated with it an air forcing means for directing fresh air, either warmed or cool into the space within the canopy so that the body of the user can be maintained at a desired temperature.

A still further object is to provide a canopy which, when not in use can be folded back out of the way at the foot of the bed so as to be inconspicuous.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings

Figure 1 is a side elevation of a bed equipped with the present improvement, the fabric of the canopy being in section and the electrical connections being shown in diagram.

Figure 2 is an elevation of the foot of a bed equipped with the present improvement.

Figure 3 is an enlarged section through one side portion of the canopy frame and the engaged portion of the bed frame, said section being taken on the line 3-3, Figure 1.

Figure 4 is an enlarged transverse section through one of the fixed forked posts and showing one end of one of the bows of the canopy frame in engagement therewith.

Figure 5 is a section on line 5-5, Figure 4.

Figure 6 is an enlarged section through one of the latches of the canopy frame, said section being taken on the line 6-6, Figure 1.

Figure 7 is an elevation of the latch portion shown in Figure 6.

Figure 8 is an enlarged section through one of the bows of the canopy frame taken on the line 8-8, Figure 2, and showing a clamp for holding the canopy fabric to the bow.

Figure 9 is an enlarged section on line 9-9, Fig. 2, through the end cross bar of the canopy frame showing a means for holding the canopy fabric thereto.

Referring to the figures by characters of reference R designates the side rails of a bed the head of which has been indicated at H while the foot has been indicated at F.

A pair of posts 1 and 2 are located at each side of the bed, these posts lapping the side rail 20 and being held thereto by clamping bolts 3 engaging straps 4 which are mounted on the inner side of the rail as shown particularly in Figure 3. Post 1 of each pair is much shorter than post 2 and merges into a canopy frame member or rail 5 which extends to and is fixedly joined to an intermediate portion of the post 2 so that the two posts and the rail 5 thus form a rigid structure. It is to be understood of course that one of these structures is located at each side of the bed.

The upper end of post 2 projects well above the rail 5 and its fork, the members of the fork being resilient and formed with central longitudinal recesses 6 and outwardly flared side flanges 7. A pivot pin 8 connects the members of the fork and mounted on this pin for swinging movement are the side arms 9 of a bow 10 which extends throughout the width of the bed and, as it is pivotally mounted in each of the two posts 2, it is capable of swinging into and out of an upstanding position. When it is in an upstanding position, the free ends of the bow, which are flattened to form disk-like heads or enlargements 10', will snap into the recesses 6 as shown in Figure 5, it being understood that these heads, as they move toward the forked ends of the posts will engage the flared portions or flanges 7 and spring the members of the fork apart until the heads become seated in the recesses 6. Thus the bow will be supported in an upstanding position until subjected to excessive pressure to cause it to swing out of said position.

A supplemental bow 11 is pivotally connected at 12 to the sides of the bow 10 and is adjust-

ably supported by cords or chains 13 which connect the side portions of the supplemental bow 11 to the side portions of the main bow 10.

A carriage 14 is mounted to travel along each rail 5 and comprises side strips 15 having rollers 16 interposed therebetween and connected thereto, these rollers being adapted to travel upon the upper and lower portions respectively of the rail 5. The side strips 15 of the carriage, which are suitably connected, as by means of the bearing pins 17 on which the rollers are mounted, have their upper ends spaced apart to form a fork 18 constructed similarly to the forked upper end of post 2. That is to say this fork has its side members provided with inner recesses corresponding to the recesses 6 while the edges are flared to form deflecting flanges similar to those shown at 7 in Figure 5. These flared flanges have been indicated at 19.

A pivot pin 20 connects the side members of the forked upper end of each carriage 14 and these pivots engage the side portions of a main bow 21 the free ends of which are enlarged to form flat disk-like terminals 22 adapted to snap into and out of position within the forked portion of carriage 14 so as thus to maintain the bow either in an upstanding position as shown in Figure 1 or to allow it to swing freely into collapsed position as hereinafter explained.

Tubular side arms 22' are pivotally connected to the main bow 21 and are also adjustably joined thereto by cords or chains 23. The pivots of these arms have been indicated at 24. Each of these tubular arms is slidably engaged by the sides of a supplemental bow 25 and as these sides telescope into the tubular arms, the supplemental bow can be adjusted toward or from the main bow 21 as will be obvious.

For the purpose of properly supporting the carriage 14 in an upstanding position and holding it against movement, a latch lever 26 is pivotally connected to the carriage, the pivot pin 20 being used preferably for that purpose. This latch has its free end portion bowed transversely as indicated at 27 and this bowed portion has a stud 28 extending inwardly therefrom for engaging in an aperture 23 formed in the upper portion of the post 1. A spring 30 connects the latch lever to the carriage so as to cause its free end to bind firmly against post 1 under normal conditions.

A casing 31 is suitably supported under the bed and joined thereto. It is intended that this casing hold an electrically driven blower and an electric heating unit and the casing has an outlet flue 32 extending upwardly therefrom between the foot-board F and the mattress M of the bed, this flue being open at its upper end and carrying a foot-rail 33. On this foot-rail are spring clips 34. An air filter indicated generally at 35 is arranged at the inlet or bottom end of the casing 31 and has an inlet flue 36 leading thereto. This flue can have its intake opening at any suitable point. In the structure shown this intake opening has been indicated at 37 in the foot-board of the bed. It is to be understood, however, that it can be placed at any other point desired.

The fabric constituting the cover portion of the canopy has been indicated at 38. This can be of a light, closely woven material. The material can be slightly porous or could be rendered airtight by rubberizing it or otherwise treating the same. The fabric is so proportioned as to extend completely over the main and supplemental bows and to extend close to and below the side rails R. One end of the fabric is extended part-

ly around the foot-rail 33 where it is held by the spring clip 34, the said fabric then hanging down below the mattress. At suitable points the fabric is joined to the main and supplemental bows by screws 33' which extend through the fabric and into the bows and have springs 39 interposed between the fabric and the heads 40 of the screws. By tightening the screws these springs will clamp the fabric upon the bows so that it will not become torn when pulled.

It is to be understood of course that the fabric is to be so proportioned as to fall lightly about the neck portion of the person occupying the bed. A suitable switch 41 can be located adjacent to the head of the bed and this can control circuits 42 leading to the motor and heater so that the introduction of air into the space under the canopy and the heating of the air can be under the constant control of the occupant of the bed.

When the device is set up for use, as shown in Figure 1, it will be apparent that the occupant of the bed will be completely enclosed without, however, supporting the weight of the covering or coming into contact therewith. By operating the blower and the heater fresh air can be directed into the space under the canopy at the desired temperature.

When it is desired to collapse the canopy, the latch levers 26 are disengaged from the posts 1 and the carriages 14 moved backwardly along the rail 5. Bows 10 and 21 are then swung downwardly toward the foot F of the bed and the supplemental bows 11 are also folded downwardly so that the fabric 38 of the canopy and the bows will thus be supported completely folded upon the foot portion of the bed where it will be inconspicuous and not detract from the appearance of the bed.

Obviously the entire device can be quickly set up simply by unfolding or elevating the main bows 21, pulling the carriages 14 toward posts 1, moving latch levers 26 into engagement with posts 1 and then pulling the canopy fabric 38 so that it will extend the proper length of the bed. This will of course cause the supplemental bows to assume their correct position.

As before stated these improvements can be used either in the home or in hospitals and are advantageous because they are not only sanitary but also because of the increased comfort they afford the sleepers.

What is claimed is:

1. A canopy attachment for beds including spaced pairs of posts, one post of each pair being shorter than the other, a rail connecting the top of each short post to an intermediate point of the long post of the same pair, means for detachably clamping the posts to the side rails of a bed, a carriage extending around and movable along each rail, and canopy supporting bows connecting the long posts and the carriages respectively.

2. A canopy attachment for beds including spaced pairs of posts, one post of each pair being shorter than the other, a rail connecting the top of each short post to an intermediate point of the long post of the same pair, means for detachably clamping the posts to the side rails of a bed, a carriage extending around and movable along each rail, and means mounted on each carriage and cooperating with one of the posts, for holding the carriage against movement toward the other post.

3. A canopy attachment for beds including spaced pairs of posts, one post of each pair being longer than the other, a rail integral with and

connecting the upper end of the short post of each pair to an intermediate portion of the other post of said pair, means for detachably securing the lower ends of the posts to the side rails of a bed, a carriage straddling and extending upwardly from each rail of the attachment, anti-friction devices within the carriage for rolling engagement with the upper and lower portions of the rail, a latch lever carried by each carriage for detachable engagement with one of the posts, said lever constituting means for holding the carriage against movement toward the long post of the pair and to brace the carriage in an up-standing position on the rail, and canopy-supporting bows connecting the long posts and the carriages respectively.

4. A canopy attachment for beds including spaced pairs of posts, one post of each pair being longer than the other, a rail integral with and connecting the upper end of the short post of

each pair to an intermediate portion of the other post of said pair, means for detachably securing the lower ends of the posts to the side rails of a bed, a carriage straddling and extending upwardly from each rail of the attachment, anti-friction devices within the carriage for rolling engagement with the upper and lower portions of the rail, a latch lever constituting means for holding the carriage against movement toward the long post of the pair and to brace the carriage in an upstanding position on the rail, and canopy-supporting bows connecting the long posts and the carriages respectively, said bows being pivotally mounted and said posts and carriages being proportioned to permit swinging movement of the bows onto the bed above one end of the bed rails when the carriages are in one extreme position on the rails of the attachment.

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