May 20 , 1924. 1,494,778

H. ENDERS

BED SUPPORT

Filed April 13 , 1922

Fig. 1

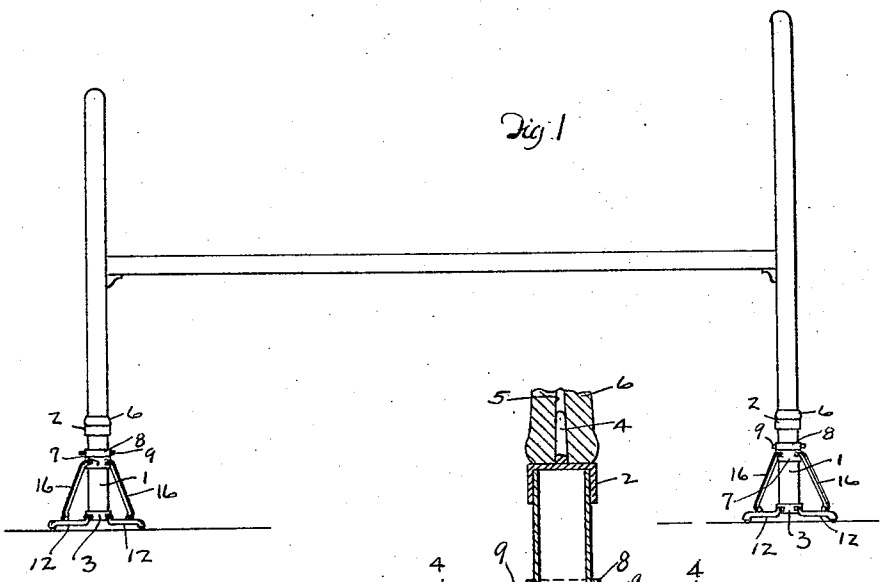


Fig. 3

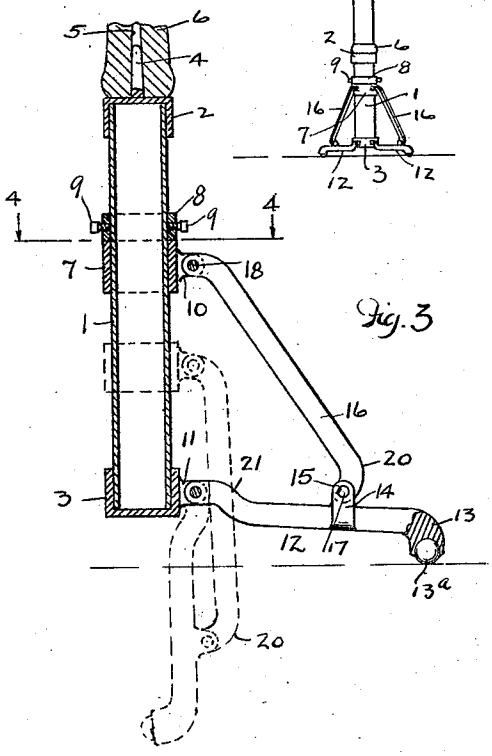


Fig. 2.

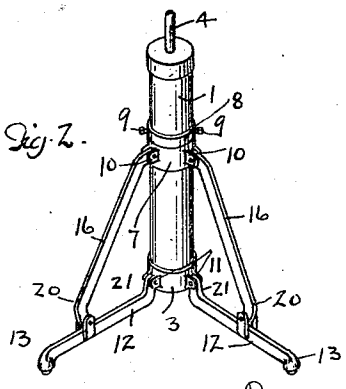
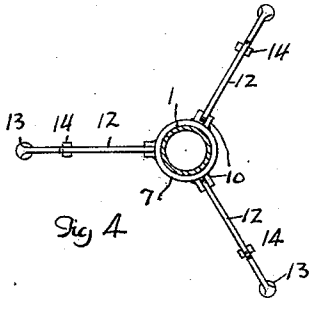


Fig 4



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BY

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ATTORNEYS'

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UNITED STATES PATENT OFFICE.

HERMAN ENDERS, OF SIDNEY, OHIO.

BED SUPPORT.

Application filed April 13, 1922. Serial No. 552,128.

To all whom it may concern:

Be it known that I, HERMAN ENDERS, a citizen of the United States, and a resident of Sidney, county of Shelby, and State of Ohio, have invented a new and useful Improvement in Bed Supports, of which the following is a specification, the principle of the invention being herein explained, and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The present invention relates to a support for beds, and more particularly, to a device which may be substituted for the usual casters in order to elevate the bed to approximately the height of a hospital bed and so render the same available for more convenient use in case of illness. The device consists of an adjustable unit or support which may be applied to the leg of a bed to raise the same and to vary the height within certain definite limits, and it also provides a caster effect in all usable positions and at the same time provides a support which will compensate for any unevenness in the floor. To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing:—

Fig. 1 is a diagrammatic side elevational view of the bed showing the present device attached thereto; Fig. 2 is a perspective view of one of my improved casters; Fig. 3 is a vertical sectional view through the same and showing the folded position of the device in dotted lines; and Fig. 4 is a sectional view on the line 4—4 of Fig. 3.

The present device consists of a tube 1 of any convenient length such as will be desirable for increasing the height of the bed to bring it to the approximate height of a bed such as is used in hospitals, and this tube is provided with caps 2 and 3 at the top and bottom which are rigidly secured to the tube by welding, brazing or the like, and the upper cap is provided with a centrally formed upstanding pin 4 which is adapted to enter the aperture 5 in the leg 6 of the bed formed to receive the ordinary caster pin, and thus the tube will be secured in position to the leg of the bed in the usual manner.

On the tube between the caps is slidably mounted a sleeve 7 which is adapted to be secured in any desired position by means of a slidable collar 8 also mounted on the tube between the caps and adapted to be held in position thereon by means of one or more set screws 9 or similar fastening devices. The slidable sleeve 7 is provided with a plurality of pairs of apertured ears 10 here shown as three in number, and the bottom cap on the tube is similarly provided with an equal number of pairs of apertured ears 11. Pivotally mounted in these pairs of ears 11 in the lower cap are arms 12 which in the normal position of the support when in use, extend substantially horizontal and have downwardly curved outer ends 13 which are provided with ball casters 13^a or the like. Attached to these arms are pairs of short brackets 14 which have aligned apertures 15 to receive the ends of braces 16 which are similarly apertured and which are thus pivotally connected to these brackets by means of pins 17 mounted through the apertures in the brackets and braces. The upper ends of these braces 16 are similarly apertured and are adapted to fit between the pairs of ears 10 on the sleeve to which they are pivotally secured by means of pins 18.

When the casters are to be used the collars will first be set in position and then the slidable sleeves will contact with the same as the arms are spread out to maintain the arms and the caster balls in the position shown in solid lines in Fig. 3 where the lower cap is shown as being spaced away from the floor, and it will be clear that by adjusting the position of the collar, the distance between the cap and the floor may be varied within considerable limits so that the bed may be raised or lowered, as desired. When these casters are removed the slidable sleeves will drop down until the arms and braces are shown in position in dotted lines in Fig. 3, and the collars may then be dropped along the tubes to contact with the sleeve and locked in this position to hold the arms and braces in their folded position.

In order to obtain a folded position which will allow the casters to be packed in as small a space as possible, the apertured ends

20 of the braces may be off-set, as shown in Fig. 3, from the line of the brace so that when the device is folded, each brace will assume a position approximately parallel to the tube, the off-set ends 20 spacing the brace far enough away from the tube so that the brace will clear the pivotal connection for its arm. Each arm likewise has an off-set end 21 which is attached to the lower cap, and thus the arm clears the bottom edge of the cap when it is in folded position, allowing both the arm and its brace to fold down snugly in a position approximately paralleling the tube. Such off-sets are not necessary but merely illustrate one desirable form of the device. As they may be secured in this position against accidental displacement, a set of the casters may be easily packed or tied together to make a compact bundle and they may be easily applied to a bed by merely inserting the upper pin in the ends of the bed in place of the usual wheel caster. It is, of course, obvious that any suitable type of caster or glide may be used in the ends of the arms, the ball type of caster here illustrated being merely one satisfactory form. As shown, each caster device is provided with three arms which allows the device to support itself from slightly uneven surfaces without rocking, and the support is taken on the outer ends of the arm and the tube does not rest upon the floor at any time.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a bed support, the combination of a tube provided at one end with a cap having a pin adapted to be inserted in the caster pin hole in the leg of a bed, a plurality of supporting arms pivotally secured to the opposite end of said tube, a sleeve slidably mounted on said tube between the ends thereof, braces pivotally attached to said sleeve and said arms, said arms and braces being adapted to fold snugly along said tube upon downward movement of said sleeve, and stop means on said tube adapted to limit the upward movement of said sleeve to position said arms in their upper supporting position.

2. In a bed support, the combination of a tube provided with caps at the ends, one end having a pin adapted to be inserted in the caster pin hole in the leg of a bed, a plurality of supporting arms pivotally attached to said bottom cap, a sleeve slidably mounted on said tube between said caps, braces pivotally attached to said sleeve and said arms, said arms and braces being adapted to fold snugly along said tube upon downward movement of said sleeve, and adjustable means on said tube adapted to limit the upward movement of said sleeve to position said arms in their outward supporting position or to maintain them in their folded position.

3. In a bed support, the combination of a tube provided with caps at the ends, one end having a pin adapted to be inserted in the caster pin hole in the leg of a bed, a plurality of supporting arms pivotally attached to said bottom cap, a sleeve slidably mounted on said tube between said caps, braces pivotally attached to said sleeve and said arms, said arms and braces being adapted to fold snugly along said tube upon downward movement of said sleeve, and a collar slidably mounted on said tube and provided with means for securing to said tube to act as a stop for upward movement of said sleeve to adjust the supporting position of said arms or to hold them in their folded position.

Signed by me, this 8th day of April, 1922.

HERMAN ENDERS.