

April 11, 1961

E. SCALZITTI ET AL
LEG SUPPORTING APPARATUS

2,978,713

Filed Dec. 16, 1959

2 Sheets-Sheet 1

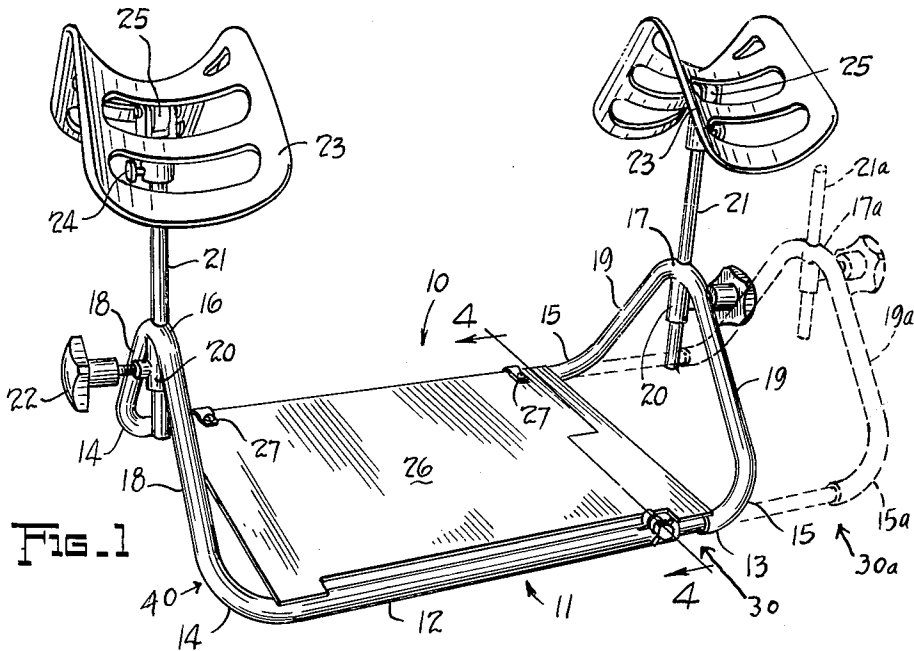
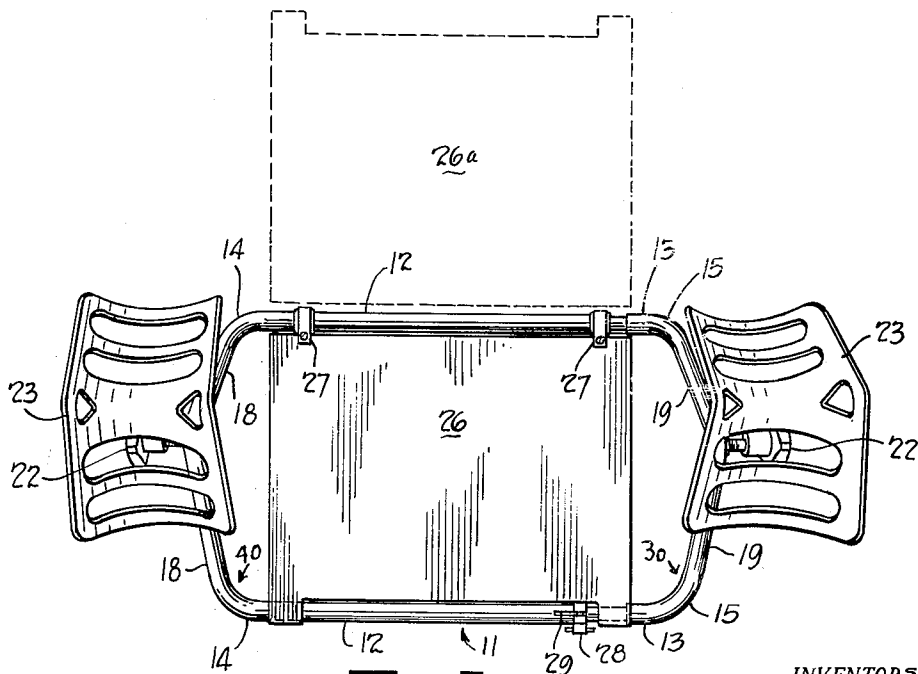


Fig. 2

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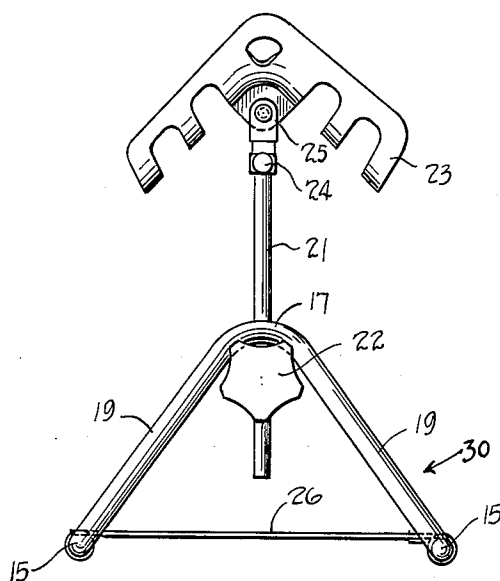


Fig. 3

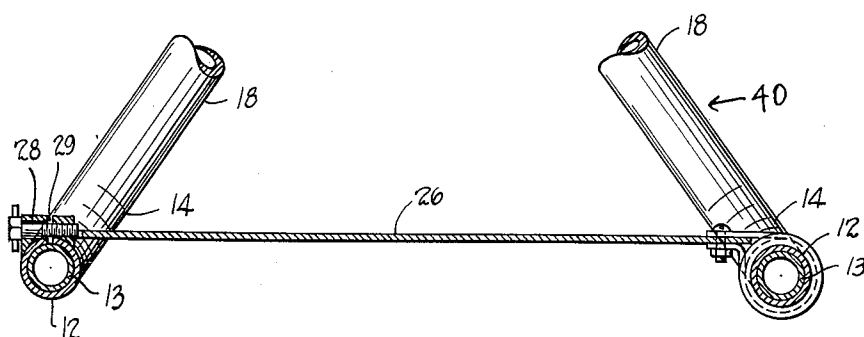


Fig. 4

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2,978,713

LEG SUPPORTING APPARATUS

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Filed Dec. 16, 1959, Ser. No. 859,947

1 Claim. (Cl. 5—327)

This invention relates to surgical devices, and particularly to apparatus for positioning the human body for bladder catheterization.

Conducive to a better understanding of this invention, it may be well to point out that the catheterization of the bladder requires that the lower limbs be held in a certain spread-apart and raised position to facilitate the insertion of a so-called "catheter" type through the urethra and into the bladder for purposes of drainage or for the irrigation of the same.

This is a very simple procedure, but at best it is an awkward one, and may be uncomfortable for the patient.

In some cases it is actually painful and it is difficult for the patient to hold the required position.

In other cases, the patient is not only in pain but is emotionally disturbed by the procedure, so that it is necessary to have several attendants to hold the patient's limbs in the required position.

The primary object of this invention, therefore, is to provide apparatus for positioning and maintaining a patient's legs in the proper attitude for catheterization of the bladder.

Another object is to provide a device of the type stated that is portable and that can be easily carried from place to place, and that can be quickly set up on the mattress of any conventional bed, or other flat surface.

A further object is to provide such a device that is fully adjustable for use with persons of varied body dimensions.

Still another object is to provide a device that is sturdy in structure, reliable in operation and relatively inexpensive to manufacture.

These and other objects of the invention will become apparent from a reading of the following specification and claim, together with the accompanying drawings, wherein:

Figure 1 is a perspective view of the leg supporting apparatus for bladder catheterization, that is the subject of this invention showing the base frame in its alternate expanded position;

Figure 2 is a top plan view of the same, showing the base table in an alternate position;

Figure 3 is a right end view of the same; and

Figure 4 is a cross-sectional view taken along the line and in the direction of the arrows 4—4 of Figure 1.

Referring more particularly to the drawings, there is seen in Figure 1 the leg supporting apparatus that is the subject of this invention, broadly indicated by reference numeral 10.

Reference numeral 11 indicates a base frame made up of two similar and opposed, substantially U-shaped tubular sections 30 and 40 having paired horizontally extending and laterally spaced leg portions 12 and 13, respectively. Each section, 30 and 40, is preferably made from a single length of $\frac{3}{4}$ inch aluminum tubing, for the sake of lightness and resistance to corrosion.

The leg portions 13 of section 30 are telescopically interfitted within the leg portions 12 of the section 40, and are free to move in and out of said mating tubes 12.

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Reference numeral 29 indicates a slot in the end of the leg 12 around which a screw operated locking clamp 28 is positioned, as is seen most clearly in Figure 4. The slotted end 29 of the leg 12 may be squeezed into locking compression around its mating leg 13 by tightening up the screw clamp 28, thereby locking the two legs 12 and 13 in adjusted positions.

The mid-section of the U section 40 is bent upwardly, at 14, to define an inverted V having upwardly inclined straight sides joined through an apex 16. The so formed inverted V stands at a 90° angle to the frame legs 12.

Similarly, the mid-section of the U section 30 is bent upwardly at 15 to define an inverted V having upwardly inclined straight sides 19, joined through an apex 17. The so inverted V stands at a 90° angle to the frame legs 13.

Reference numeral 20 indicates a socket positioned at the apices 16 and 17 having vertical bores for receiving rods 21 therethrough. The bores of the sockets are continued through the tubular apices 16 and 17 so that the rods 21 are free to travel through the sockets in a vertical plane. The rods 21 are locked in adjusted positions by means of thumb bolts 22.

Reference numeral 23 indicates a leg rest tiltably and rotatably mounted at 25 on the top end of each leg supporting rod 21. The leg rests are of the conventional type, adapted to fit the underneath parts of the knee joints or calves of the legs, the forward and rearward portions of the rests 23 being appropriately splayed to avoid cutting the flesh. The rests 23 are free to rotate through 360° on the rods 21, and are locked in any desired position by lock screws 24.

Reference numeral 26 indicates a flat plate, or table, that is hingedly mounted on the base frame 11, by means of hinges 27. The width of the table 26 is such that it will normally lie horizontally across the base frame 11, but is swingable to an alternate position 26a wherein it lies in a horizontal position to the side of the base 11, along one edge thereof, for a purpose to be hereinafter disclosed.

As stated hereinabove, the legs 13 and 12 are telescopically inter-fitted, so that the sections 30 and 40 can be moved toward or away from each other in a horizontal plane, thereby causing the two inverted V portions and their associated leg rests 23 to travel toward or away from each other.

In use, the patient is positioned on his back on a bed mattress, or other flat surface, with his legs drawn up and spread apart. The leg support apparatus 10, as seen in Figure 1, is placed on the mattress ahead of the patient's buttocks with the base 11 and with the leg rests 23 beneath the patient's knees. The clamp 28 is loosened and the tubular section 30 is moved toward or away from the section 40 to a position that conforms to the spacing between the patient's legs. The clamp is then locked, holding the frame 11 rigid. The lock bolts 22 and 24 are loosened and the leg rests 23 are raised, tilted and rotated until they support the patient's legs in the desired position, after which the bolts are tightened to lock the leg rests in place. The patient will then be in the proper position for catheterization, with his legs comfortably supported at the proper angle and height.

The table 26 serves as a platform upon which trays and instruments may be safely supported.

In catheterization practice the patient's legs are supported in a bent and spread apart position with the feet resting on the bed mattress, ahead of the supporting apparatus, so that there is no tendency to shove the supporting apparatus away. However is some forms of medical usage, such as rectal examinations, it is necessary to hold the patient's legs high with his feet off the mattress. In such cases the base table 26 is swung to the

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position 26a, as illustrated in Figure 2, alongside one edge of the base 11.

The patient's buttocks are then positioned on the table 26a, with his legs supported on the rests 23. Since the table 26a is held down by the weight of the patient, the support apparatus 10 is thereby anchored securely in place without requiring any mechanical attachment to the bed frame or mattress.

It will now be clear that there is provided a device which accomplishes the objectives heretofore set forth.

While the invention has been disclosed in its preferred form, it is to be understood that the specific embodiment thereof as described and illustrated herein is not to be considered in a limited sense, as there may be other forms or modifications of the invention which should also be construed to come within the scope of the appended claim.

We claim:

Portable leg supporting apparatus, comprising in combination, a base frame composed of two faced and interfitted, substantially U-shaped tubular sections, each of said tubular sections having horizontally extending and

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laterally spaced leg portions which slidably interfit each other in telescopic engagement, the intermediate portion of each section being bent upward to form an inverted V perpendicular to its horizontal legs, a socket positioned at the apex of each V, a support rod, including a leg rest, mounted in each of said sockets and movable vertically thereof between adjusted positions, the two support rods and attached leg rests being adjustable horizontally relative to each other by telescopic movement between the interfitted leg portions, lock means mounted on the leg of one section and engaged with the leg of the other section to lock same in adjusted positions, and, a table hingedly mounted on one leg, across the base, and movable between a first horizontal position across the base, and a second horizontal position adjacent one edge of the base.

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