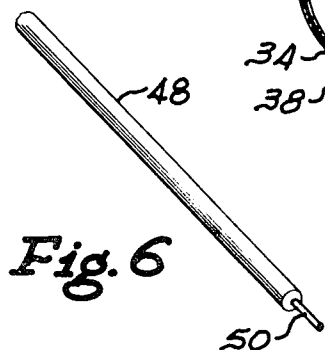
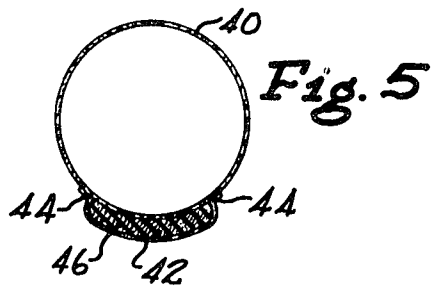
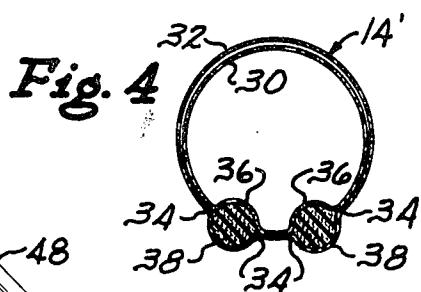
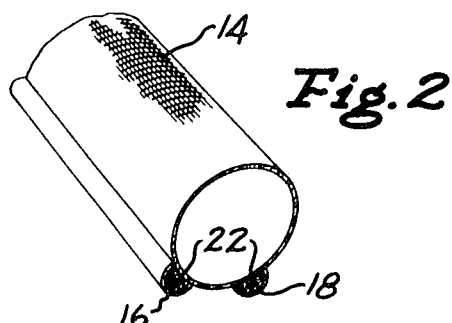
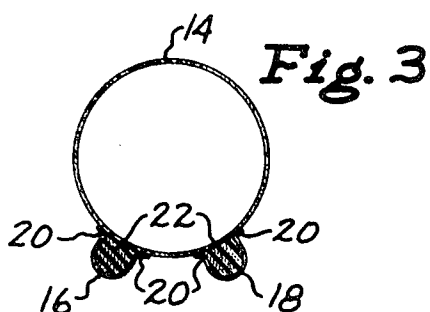
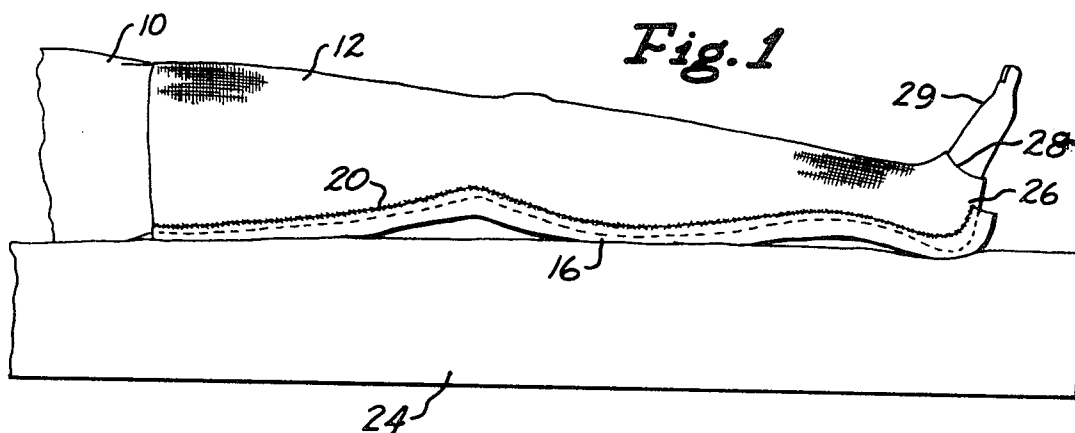


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 APPARATUS FOR PREVENTING BLOOD CLOTS IN THE LEGS OF
 HOSPITAL PATIENTS AND THE LIKE
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APPARATUS FOR PREVENTING BLOOD CLOTS IN THE LEGS OF HOSPITAL PATIENTS AND THE LIKE

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6 Claims

ABSTRACT OF THE DISCLOSURE

Described is a device, in the form of an elastic legging extending along the length of the leg for minimizing the possibility of forming clots in the legs of a bedridden patient. The legging is provided with elongated cushioning means, preferably a pair of spaced resilient cushions formed from foam rubber or inflatable balloon members which extend along the backside of the leg on either side of the center thereof whereby no pressure is exerted on the central posterior arteries or veins of the leg where blood clots are likely to occur.

BACKGROUND OF THE INVENTION

The formation of blood clots in the legs of patients confined to a bed for extended periods of time has always been a problem in the medical field. The reason for the formation of such clots is not entirely understood, but it is surmised that they occur because of pressure on the backside of the leg which restricts the flow of blood through the blood vessels. Areas particularly susceptible to the formation of clots or ulcerations are the heel and the central back portion of the calf of the leg, which usually support most of the weight of the leg. Needless to say, if such clots travel to the lungs, the result may be fatal.

SUMMARY OF THE INVENTION

As an overall object, the present invention seeks to provide a device, which can be worn as a legging, to minimize the formation of blood clots in the legs of bedridden patients.

More specifically, an object of the invention is to provide a device of the type described comprising a legging of elastic material having a pair of pockets formed therein to receive spaced cushioning members which preferably extend along the entire length of the leg.

In accordance with the invention, a device for preventing the formation of blood clots in the legs of bedridden patients is provided comprising an elastic stocking or legging adapted to fit over the leg and having a pair of spaced pockets extending along its length at the rear thereof, together with cushioning means received within the pockets whereby the weight of the leg with the legging pulled over it will be distributed over the area of the cushioning means. In this manner, pressure points where blood clots might form are materially reduced.

The legging may cover only the lower part of the leg, such as the heel and calf; however it is preferable to have the legging extend along the entire length of the leg, including the thigh. Furthermore, while spaced pockets on either side of the central posterior arteries or veins are desired, in some cases a single cushioning means can be utilized, provided that the legging extends along the entire length of the leg and that the cushioning means is sufficiently wide to uniformly distribute the weight of the leg.

The above and other objects and features of the invention will become apparent from the following detailed description taken in connection with the accompanying

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drawings which form a part of this specification, and in which:

FIG. 1 illustrates the use of the invention as applied to the leg of a bedridden patient;

FIG. 2 is a perspective view of a section of one embodiment of the legging of the invention;

FIG. 3 is an end view of the embodiment of the invention shown in FIG. 1;

FIG. 4 is an end view of another embodiment of the invention employing spaced cushioning means;

FIG. 5 is a cross-sectional view of still another embodiment of the invention employing a single cushioning means; and

FIG. 6 is an illustration of an inflatable cushioning means which may be used in accordance with the teachings of the invention.

With reference now to the drawings, and particularly to FIGS. 1, 2 and 3, the leg of a patient 10 is shown covered with the legging 12 of the invention which, as shown in FIGS. 2 and 3, comprises a cylinder 14 of woven elastic material having pockets 16 and 18, also of elastic material, sewn along the backside of the cylinder 14 along seams 20. The pockets 16 and 18 are filled, for example, with foam rubber inserts 22. With this configuration, and assuming that the legging is pulled over the leg as shown in FIG. 1, the weight of the leg will be supported on the cushioning inserts 22. Furthermore, the weight of the leg will be more or less uniformly distributed over the surface of a mattress 24 on which the patient is resting.

Preferably, the stocking extends along the entire length of the leg, including the heel 26, such that the weight of the foot will be supported on the spaced cushioning inserts 22. In this respect, the legging 12 is provided with a cut-out portion 28 to permit the foot 29 of the patient to extend upwardly and afford a degree of freedom to the toes.

As was mentioned above, there is a tendency for blood clots to form around the central posterior arteries or veins of the leg which extend centrally down the leg along the backside thereof. The spaced cushioning inserts 22 absorb the weight of the leg in an area other than the central back area. Hence, very little pressure is exerted in the areas where blood clots are likely to occur.

Another embodiment of the invention is shown in FIG. 4 wherein the cylinder 14' of elastic material is formed from inner and outer elastic sleeves 30 and 32 which are sewn along seams 34 to form pockets 36 which, in turn, receive foam rubber inserts 38. Aside from this, the construction of the legging is similar to that shown in FIGS. 1-3 and supports the weight of the leg on the cushions 38 without exerting any pressure on the central posterior portion of the leg.

In FIG. 5 still another embodiment of the invention is shown which again includes an elastic woven cylinder 40 having a single pocket 42 sewn to the lower portion thereof along seams 44. This pocket 42 is again filled with foam rubber 46 or another cushioning means. Unlike the embodiments of the invention shown in FIGS. 1-4, however, this embodiment of the invention distributes the weight over the entire back portion of the leg. This is not as desirable as the spaced cushioning effect of FIGS. 1-4; however, in some cases, it can be used, assuming that the cushion extends along the entire length of the leg to more evenly distribute the weight of the leg.

In FIG. 6 an alternative form of cushioning means is shown comprising a balloon 48 having an inflating valve 50 at one end thereof. The balloon 48, for example, can be inserted into the pockets 16 and 18 in FIG. 3 and thereafter inflated to provide a very effective cushioning means. As will be understood, other and different types of cushioning means can be used such as fibrous matting, just

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so long as the weight of the leg is evenly distributed over the length of the legging.

Although the invention has been shown in connection with certain specific embodiments, it will be readily apparent to those skilled in the art that various changes in form and arrangement of parts may be made to suit requirements without departing from the spirit and scope of the invention.

I claim as my invention:

1. In a device for preventing the formation of blood clots in the legs of bedridden patients, the combination of an elastic legging adapted to fit over the leg and having a pair of spaced pockets extending along its length at the rear thereof, and cushioning means received within said pockets whereby the weight of the leg with the legging pulled over it and the cushion-filled pockets beneath the leg will be distributed over the area of the pockets and little pressure will be exerted on the central posterior portion of the leg.

2. The device of claim 1 wherein said elastic legging extends over the entire length of the leg including the heel, the calf and the thigh.

3. The device of claim 1 wherein said cushioning means comprises foam rubber inserts received within said pockets.

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4. The device of claim 1 wherein said cushioning means comprises inflated balloons received within said pockets.

5. The device of claim 1 wherein said elastic legging is formed from a single cylinder of elastic fabric material and said pockets are sewn to the outside of said cylinder along the length thereof.

6. The device of claim 1 wherein said legging is formed from concentric cylinders of elastic fabric material, and said pockets are formed by sewing said inner and outer cylinders along seams extending throughout the length thereof.

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LAWRENCE CHARLES, Primary Examiner

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