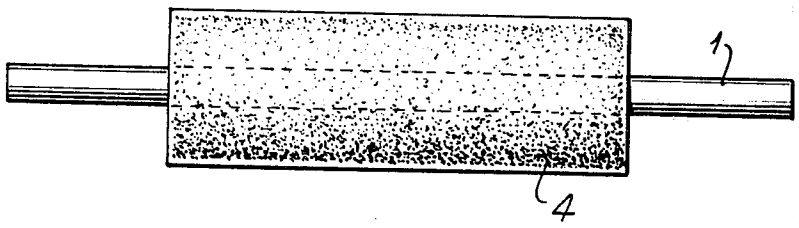
Dec. 31, 1968 J. BELLET 3,419,268

IN-BED EXERCISER AND/OR CUSHION

Filed Dec. 22, 1964

Fig. 1.



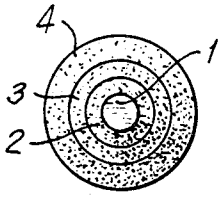


Fig. 2.

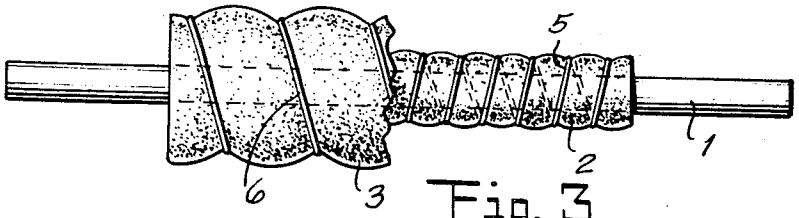


Fig. 3.

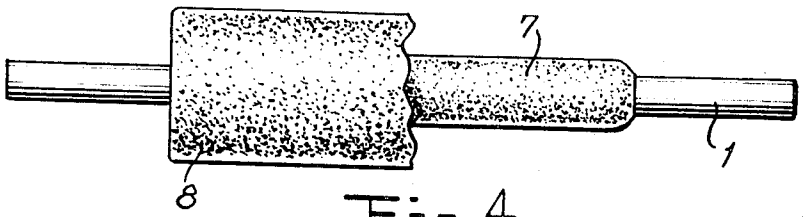


Fig. 4.

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IN-BED EXERCISER AND/OR CUSHION

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This invention relates to the field of exercisers for elderly people, to be used mainly in bed and/or as cushions for the small-of-the-back when sitting, particularly on upholstered settees, chairs, and automobile seats.

The object of this invention is to improve the posture of elderly people and others whom this will benefit.

Another object is to improve and maintain the normal curvature of the spine at the-small-of-the-back and lower spine of elderly people and others.

Another object is that this invention shall be used in bed to exercise with, but not necessarily limited to its use there.

Another object is that this invention shall be easily stored, such as in the clothes closet of the bed room, and be readily available in the area of use, so that the preparation or get-ready time for its use is—instantly.

Another object is that while primarily using this invention under the-small-of-his-back while lying in bed, it will naturally follow for the user to do leg, body and arm exercises which will improve his body and muscles including his stomach and waist line.

Another object is that it shall be available to most people because of its low cost.

Another object is that this invention can also be used as a cushion for the-small-of-the-back when sitting, particularly on upholstered seats.

Other objects and advantages of the invention will become more apparent during the course of the following when taken in connection with the accompanying drawing.

In the drawing:

FIG. 1 is a side elevational view of a device embodying the invention in a particular form;

FIG. 2 is an end view of the device of FIG. 1;

FIG. 3 is a side elevational view of another embodiment of the invention, with the outer layer partially broken away; and

FIG. 4 is a view, similar to FIG. 3, of still another embodiment of the invention.

Referring first to FIG. 1, the device there shown includes a hard core shown as #1 in the drawing. In this instance it is made of wood, but could be steel, plastic, fiber glass, aluminum, hard rubber, or any other similarly hard substance or combination of these, and not limited as to any of them. This core shown as #1 in the drawing has a diameter of 1¼" but it is not necessarily to be limited to this dimension, or to varying thicknesses or diameters on the core, or to be limited as to any shape.

This core I surrounded with several layers of plastic foam, three such layers (respectively designated **2**, **3** and **4**) being shown in FIG. 2, but is not to be limited to this material. In the embodiment of FIG. 3, wherein for simplicity of illustration only two layers (designated **2** and **3**) are shown, each layer was tied down, by tying a cord **5** around one end of the layer of plastic foam **2** surrounding the core, then I wound the cord **5** in spirals around the layer of plastic foam, forming a sheath or sleeve around the core. These spirals are about 1" apart. After about 15 spirals I tie the cord around the combination of the core now covered (except for the handles) by its first layer. The next layer **3** of soft material is put over the core and first layer, and it too is tied down with a cord **6**, in the same way as the first layer with one or two less spirals; then the next layer (not shown)

is similarly put on with one or two less spirals than the previous layer. Desired compression in the soft material is obtained by tightening the spirals of the cord.

It is not intended to be limited to this method of making this device, for example the plastic foam could be made in tubular shapes. But, as yet I have not found it on the market. However, it could possibly come on the market for this device. In the meanwhile it could be sewn, or glued to make into a sleeve of required diameters and lengths. An embodiment of the invention wherein the several core-surrounding layers are formed as sleeves is shown in FIG. 4, again with only two layers represented for simplicity of illustration. In the device of FIG. 4, the 1st layer **7** will be glued to the core **1**. Desired compression will be obtained by having the inside diameter of the first sleeve **7** be smaller than the outside diameter or thickness of the core; then the 2nd sleeve **8** is to have an inside diameter smaller than the outside diameter or thickness of the core and 1st sleeve, assembled; then the 3rd sleeve (not shown) is to have an inside diameter or thickness smaller than the core, 1st sleeve and 2nd sleeve assembled, and so on with any additional sleeves. In each instance the sleeve is pulled over the handle to its exact location. During the pulling, because of the smaller inside diameter, the pulled-on sleeve is expanded somewhat in the process of pulling and when placed in the desired position it compresses the sleeve it covers or surrounds. The pulled-on sleeve holds itself in place due to the tight fit.

Other methods of fastening or joining the first layer of soft material on to the core may be by using a soft material with adhesive backing, or by spraying a soft material on to the core, or tying it down with bands of cord or rubber, or any other substance that can be used as bands or loops. It is not intended that, the method of fastening, joining, or bonding of the soft material to the core, should be limited to any of the methods mentioned as to the first layer or sleeve, or as to any additional layers or sleeves; or as to any combination of the methods mentioned, desired compression of the soft material is obtained by having the bands or loops smaller in diameter—fitting tight.

In the drawing FIG. 2 shows a plan view of the side of the device, and the numbers **2**, **3** and **4** are the different layers of soft material surrounding the core #1. While only 3 layers are shown in the drawing it is not intended to be limited to this number.

However it is preferred that each layer be more compressed than the next layer, or sleeve which covers it, as indicated in the drawing, but not necessarily limited to this arrangement.

In the instance of the device I made I tied each layer over the previous layer by spiralling a cord in the manner of the first layer, but with a few less spirals in each next layer, so that where the first layer had fifteen spirals. The last layer, the one furthest from the core had eleven spirals. The number of spirals is not to be limited.

The soft material by layers was built up to an approximate thickness or diameter of 5" as shown in the drawing. The length of the soft material as shown in the drawing is approximately 15" but is not to be limited to either one of the dimensions stated.

In the drawing, FIG. 1 part 1 is the core shown as approximately 25" long. The soft material, made up of layers **2**, **3**, and **4** in FIG. 2, covers or surrounds the core in the middle, as shown in FIG. 1. For a length of 15" which leaves a dimension of about 5" each of the two ends of the core, protruding beyond the soft material, which shall be referred to as the handles.

It is not intended that the core shall be limited to any length, or that it shall protrude beyond the layers of soft

materials covering or surrounding it, nor shall the ends when protruding, now called the handles, be limited as to their dimension.

I have used this device as shown in the drawing, where (in FIGS. 1 and 2, as well as in FIG. 4) the spirals are not shown, because I prefer as the best way to make the assembly the use of sleeves as previously described. I use it regularly to exercise with mostly in bed. I also use it at times as a cushion to lean against at the small-of-my-back whenever I feel the need of it when becoming uncomfortable when sitting. As a cushion the handles can be smaller or may not be necessary.

Since I use this device as an exerciser mostly in bed, I shall refer to it as an in-bed exerciser.

I use the in-bed exerciser almost always in the morning after I am awakened. Then I go to my clothes closet where my in-bed exerciser is standing on one end and leaning against the wall and pick it up with one hand, by one of the handles and return with it to bed. There I stretch out full length on my back on the in-bed exerciser positioned cross-wise to by body, and lying under the small-of-my-back. The small-of-my-back is meant to be the area where the upper portion of the buttocks meets the back of the torso and a few inches upwards of the torso at the back.

I then take hold of each of the handles of the in-bed exerciser with each of my hands, and press firmly against the upper portion of my buttocks, which at the same time gives firm support to the rest of the small-of-my-back and then begin the exercise. I stretch one leg and slowly move it upwards and then downwards to rest, Then I do the same with the other leg; then continue alternating with each leg and repeating as may times as I enjoy doing it.

Then I move both legs, in unison, slowly upwards as far as I can, and be comfortable, while my hands are holding the handles of the in-bed exerciser, and pressing it into the small-of-my-back. Then slowly, I let my legs downwards, in unison, to a position of rest, and repeating as many times as I enjoy doing it.

I follow with slowly rolling on my hips, side to side and resting on each hip at intervals, and repeating as long as I enjoy doing it. Often as I roll I find it helpful to push the in-bed exerciser a little harder, so as to lift my body a little higher at the hips.

Then I move both legs in unison from one side as far as I can, my body turning or twisting at the waist line, and then reverse to the other side as far as I can, and repeating as long as I enjoy doing it. In this exercise, my hands holding the handles help me to control, and maintain the pressure of the in-bed exerciser against the small-of-my-back. This particular exercise is similar in its effect on the hips, and small-of-the-back to a person in a standing position doing body-twisting work or exercises like driving a golf ball, which I found I could not do safely in a standing position. But in a position of lying in bed on the in-bed exerciser I have been doing it daily for about 6 months.

Upon finishing with the above exercise I remove the in-bed exerciser from under me and lying fully stretched out on my back I place the in-bed exerciser on my stomach and take hold of the other handle so that I have both handles in my hands. I then roll the in-bed exerciser over my stomach exerting as much pressure as I find comfortable, and continue the rolling back and forth as long as I enjoy doing it.

Then I turn my body face down and fully stretched. With my hands I grip both handles of the in-bed exerciser, and place it under me at about the shoulders, and using the in-bed exerciser as a base, I lift my body with my hands, and the toes of my feet are the only other points of my body in contact with the bed. When I have lifted myself, my arms are fully stretched, and my elbows are not bent. I then let myself down as far as possible by bending the elbows, but no other part of my body touches the bed, excepting my toes; and my hands are gripping the handles of the in-bed exerciser acting as a base; and my chin, but only to mark the beginning of repeating the lift of my

body, and then down again, repeating as much as I enjoy doing it.

Continuing in the same position as that recited above, I use my knees, and toes as the other resting points, and with my hands gripping the handles of the in-bed exerciser, I lift myself and let myself down, each as far as possible, repeating as long as it is comfortable to do so.

Then, with my body still stretched, lying face downward, I place the in-bed exerciser under my stomach, and use my elbows and knees I propel myself forward and backwards. The in-bed exerciser becomes a roller under my stomach. The distance of the roll is approximately the length of my stomach. I repeat the forward and backward rolling as long as it is comfortable to do so.

All of the previously mentioned exercises taken by me with the in-bed exerciser have benefitted me in many ways, some of which are as follows:

Now I walk more upright and have better posture than I have had in many years.

I can sit on upholstered seats much longer than I could before.

I can now bend forward and down from a standing position, and pick a small object off the floor, which I could not, and did not dare to try before.

I no longer feel that I am about to have sacroiliac difficulties.

My stomach is now flatter and more muscular than it has been for a long time, and most of the flabbiness I had there is gone.

After a complete medical checkup about one month ago, a doctor at the clinic, that I met for the first time, told me that my physical appearance for a person of my age was unusually good and better than most men much younger than me.

My point is that possibly any routine of exercises may have done me just as much good had I started with exercises at any time in the last 35 years. But I never did.

It may be that when a person thinks of wanting to take exercises he thinks of joining a gymnasium. Then if that is not convenient he thinks of acquiring paraphernalia to use in his home. But joining a gymnasium involves cost and a loss of time in going and returning, undressing and dressing which for most elderly people is obviously not a preferred situation. On the other hand the purchase of paraphernalia to take home is also a matter of cost and a place to store it, which often is not easy. Any exercises that an elderly person may attempt, if it should be from a standing position he would soon give up trying, if they involved bending forward at the hips or twisting at the hips. Without these there are few exercises left to the inexpert—without any paraphernalia.

I believe that my invention, the in-bed exerciser, is an improvement over the present situation of a choice of how to carry out beneficial exercises by elderly people and others whom this invention will benefit by its use. It is very simple and therefore should be so low in cost as to be within the reach of people with minimum incomes. It is very convenient to find a place to carry out his exercises because it is intended to be used in bed, and everybody has or should have a place to sleep. The bed usually takes up the greatest area in most bedrooms so it really is a good sized area for carrying out the exercises. It is very simple to store, because when it is placed on the floor, on its end, it occupies a floor area of less than 2 inches in each direction of occupancy, and it is leaned against the wall either in the clothes closet or close to the bed. Furthermore in order to use the in-bed exerciser, he needs no make-ready fuss or time. He does not have to dress or undress to use it.

In addition the in-bed exerciser can be used at any time during the day or evening whenever the person feels his back is tired. I use it by lying on it at the small-of-my-back. My body cross-wise on the bed; or as a cushion at the small-of-the-back while sitting on any kind of chair. In either case it is done without the need to remove any clothing.

The cushion may be made with the principles of this device with the core not necessarily protruding to become the handles, and any loop or handles can be attached.

For effective storing of the in-bed exerciser it is intended that a rubber tip, or any other material of frictional resistance, shall cover one handle or both handles, so that the tip shall be in contact with the floor and gripping the handle in the desired position of storing—leaning it against the wall. The tip will prevent most sliding and falling of the device in stored position.

Another method of making the sleeves is to join the ends, with glue or other bonding material, in a properly cut material as to desired size, with the edges to be joined to remain square or bevelled.

It is to be noted that each sleeve when put into position becomes taut when the inside diameter is smaller than the thickness or diameter it covers.

Where it had been previously stated that a cord is tied around and the cord is wound in spirals around each of the layers of soft material, desired compression will be obtained by the tightness of the winding.

Another way of making the device is to wind soft material around the core and then fastening, bonding, joining or tying it down in any of the ways previously mentioned.

Still another way of making the device is to have holes in the soft material, and winding the soft material around the core, and passing a cord through the holes and tying the cord in loops, or bands around the soft material and cord either in layers, or the complete windings of soft material, or spiral the cord through the holes on the layers or the complete winding.

I claim:

1. A cushion and exerciser for use by elderly people and adults for reshaping the small of the back and developing the muscles around the small of the back comprising: a substantially cylindrical relatively hard and rigid core, a first layer of relatively soft material concentrically surrounding said core, and at least one other layer of relatively soft material concentrically surrounding said first

layer, each layer being under more compression than the next adjacent layer which covers it.

2. The cushion and exerciser of claim **1** wherein said first layer comprises a thickness of soft material wrapped at substantially right angles to the longitudinal axis of said exerciser with a spiral winding, and said at least one other layer comprises a thickness of soft material wrapped at substantially right angles to the longitudinal axis of said exerciser with a spiral winding of fewer turns than the winding underlying it.

3. The cushion and exerciser of claim **1** wherein said first layer comprises a first sleeve having a normal inside diameter less than the outside diameter of said core, and said at least one other layer comprises a sleeve having a normal inside diameter less than the normal outside diameter of said first sleeve.

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U.S. Cl. X.R.

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