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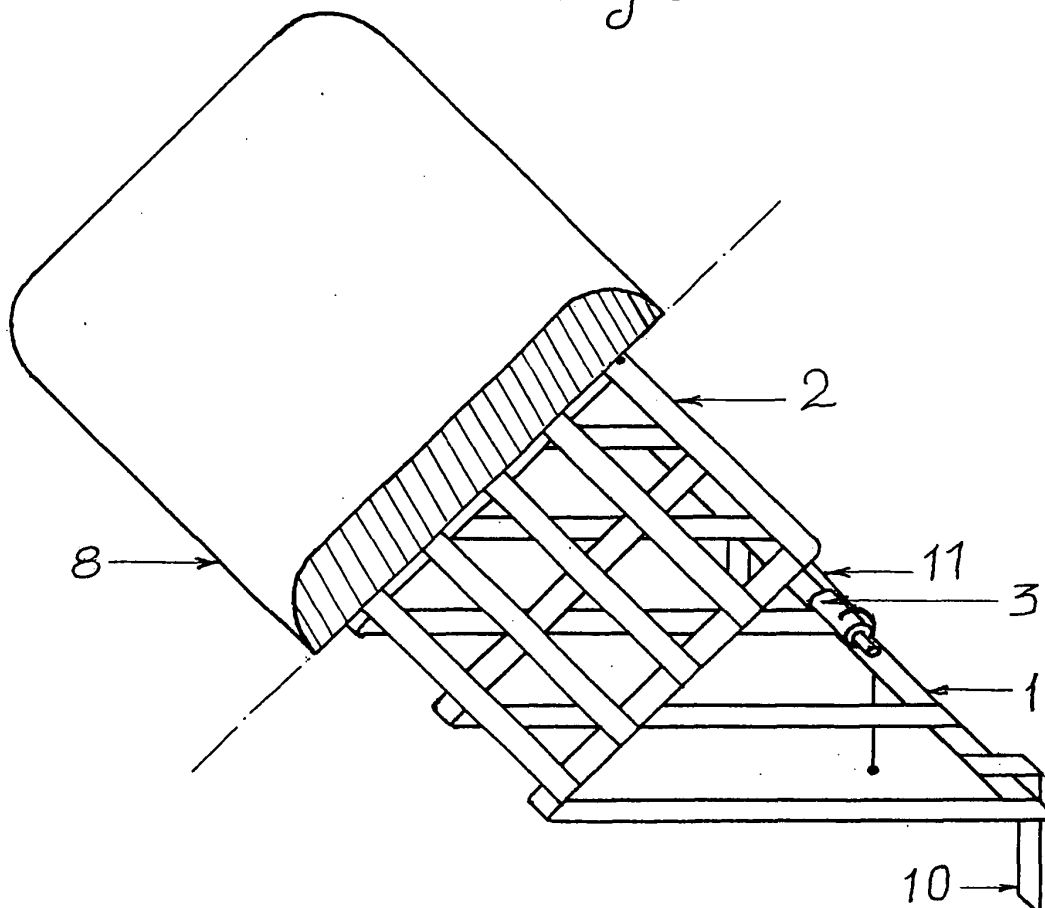
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(54) **Dynamic neck tension relief pillow**

(57) Dynamic neck tension relief pillow comprising a moving mechanism and an ordinary pillow (8) either placed on the moving mechanism by the user himself (fig.1,2) or permanently incorporated to the moving

mechanism (fig.3,4), wherein the pillow position being balanced between the weight of the user's head and the spring force of a rubber band (4), the rubber band being incorporated in the moving mechanism.

Fig 3



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Description

[0001] This invention refers to a dynamic neck tension relief pillow consisting of a sleeping pillow.

[0002] The sleeping pillow is one of those commodities known to everyone without exception, which we can lay on top of the covers of any mattress on any bed for sleeping. Almost all of us use it when we lie down and rest our neck and head on it, either to relax or during our sleep for as long as we are sleeping. The sleeping pillow is simply a classic, whether non-anatomic or anatomic or ergonomic, it can be constructed from natural or synthetic fibres or from feathers or from natural or synthetic foam, and in general it comes in all sizes, kinds and qualities.

[0003] Almost all of us, when we go to bed to relax or to sleep, use one of those sleeping pillows which are known to everyone. Our neck and head, from the moment they touch the sleeping pillow, begin to form the arc of a circle, descending lower and lower until the moment they reach their greatest arc and their descending movement onto the sleeping pillow stops. Then the opposing force from the sleeping pillow has become equal and opposite to the weight of our head so that our head balances on the sleeping pillow and does not descend any lower. We observe for now that at the time we start to sleep or rest on our pillow certain forces have been created, the forces created by the descending progress of our head because of its weight and because of the path it followed, that is, the arc of a circle, and the opposing forces which were developed by the sleeping pillow, that is, the reaction to the weight of our neck and head and to the horizontal movement which our head and neck completed synchronously with the tracing of the arc of the circle. These forces are mainly at right angles to our neck as a reaction to the weight of our head, however there are also component forces as a reaction of the sleeping pillow to the horizontal movement which is created from the downward movement of the arc of the circle of our head and neck, which, when calculated, give us a resultant force which is horizontal in relation to our neck. The size of this horizontal force which, according to the situation, changes towards our neck, depends on the hardness of the pillow we are using, on the shape of the pillow, that is, if it is an anatomical or a simple non anatomical sleeping pillow, and on the difference between the height of the sleeping pillow and the size of the person using the sleeping pillow and his/her position in relation to the sleeping pillow. And so, from the moment that our head and neck, when we lie down on our bed to relax or to sleep, comes in contact with the sleeping pillow, until the moment when it finishes its descent and balances on top of the sleeping pillow, it traces an arc of a circle with its centre at the point where the flexibility of our neck begins. We divide this arc of the circle into two parts, the length of the route which is traced by our neck and head above the imaginary straight line of our spinal column and of the length of the route which is traced by our head and neck under the imaginary straight line of our spinal column. When the

length of the upper route according to the above is greater than the length of the lower route in relation to the imaginary line of our spinal cord, our pillow creates as a reaction a resultant force which is horizontal in relation to our spinal column and with a direction towards our spinal column, lightly pressing on our spinal column throughout the duration of our sleep. The size of this horizontal pressure on our neck is analogous to the difference in length of the two upper routes which our head traces. If the route below the imaginary straight line of our spinal column is greater than the route which was traced by our head and neck above the imaginary straight line of our spinal column, then we again have the creation of a small horizontal force towards our spinal column, however in this case we have an opposite direction, that is, this small horizontal force has an opposite direction to the side of our spinal column, lightly pulling our neck for the whole duration of our sleep. When this happens it is good, but unfortunately it happens rarely. When this horizontal force to which I referred above has a direction towards our spinal column, in spite of the fact that our spine is constructed so that during the day it receives many and great loads without being damaged, at night when we sleep it is more vulnerable, and especially for someone who has the beginnings of a hernia in one or more of the vertebra of the neck, or if because of deformation of the muscles the space between the vertebrae of the neck has been reduced and the vertebrae press on the intermediary sliding material of cartilage or spinal marrow or some vessel for the transfer of liquids or blood or some nerve lightly at the beginning of deformation, then this horizontal compression stress does not permit the neck and the muscles of the neck to rest well, because they are deformed in our sleep.

[0004] Unfortunately when we sleep, most of the time this horizontal compression has an impetus against our spinal column because there is an attempt to choose a sleeping pillow so that during our sleep the imaginary line of our neck will coincide with the imaginary line of our spinal column, with the result that the route of the arc of the circle traced by our neck and head is greater than the upper part of the imaginary line of our spinal column. At the point where the flexibility of our neck starts, many times our neck is not in contact with the sleeping pillow when we are sleeping on our side. In this case two things happen:

a) Because the weight of our head and neck remains the same, it is distributed in this first case onto a smaller contact area with the sleeping pillow, so we have a greater pressure per cm^2 , and the best thing for our health is for the same weight of our head and neck to be distributed over the greatest possible contact area with the sleeping pillow in order to minimize as much as possible the pressure per cm^2 which we receive, in reaction from the sleeping pillow.

b) At the highest point, where our neck is not in contact with the sleeping pillow because of the weight

of our head and neck we have per cm^2 forces with energy perpendicular to our neck and with impetus towards the earth. I believe that these small perpendicular forces are capable of not allowing our muscles and our neck itself to sleep satisfactorily and to rest as much as they need, because of the fact that the muscles of our neck and all the parts which make up our neck receive at this point, in this case, a slight bending which, with time, is enough to create deformation to the members which make up our neck.

[0005] We see that the classic, non-anatomic pillows which are familiar to all of us many times present the greatest problems and in spite of the fact that, along general lines, they are good, the people occupied with the evolution and improvement of technology invented the anatomic and the ergonomic sleeping pillows.

[0006] The anatomic pillows familiar to us all reduce this force which is horizontal to our neck, the compression stress in relation to the classic non-anatomic sleeping pillows familiar to us all comes into contact better with the whole length of our neck, greatly reducing the small forces vertical to our neck, which as I mention above had the tendency to compress our neck into bending. In this way we also reduce the pressure per unit of surface area because we increase the surface where our neck and head are in contact with the sleeping pillow. Of course, the simple non-anatomic sleeping pillows which are stuffed with natural fibers, with wool, cotton or synthetics, for instance polyester, or the feathers of birds, are also soft, our head sinks into them and since they have a large contact area, we have a reduce pressure towards the points of our neck and head per cm^2 . When we sleep it is better for our body and neck to be compressed with the least possible load, which is moreover the reason why we sleep in a position parallel to the earth using a mattress and sleeping pillow which have been improved, and we are now also trying to improve the sleeping pillow even more so that during the period when we are lying down or when we are asleep we can get the best rest possible, because I believe that rest is the source of life.

[0007] According to the present invention, the dynamic neck tension relief pillow has the characteristic that it also includes a movement mechanism.

[0008] The dynamic neck tension relief pillow comes in two kinds:

[0009] In the first kind the sleeping pillow is constructed so that it is permanently incorporated with the movement mechanism.

[0010] In the second kind we simply place the sleeping pillow or even place it and hold it steady on top of the portable movement mechanism and we remove it from there whenever we want to.

The dynamic neck tension relief sleeping pillow is portable and in order to use it we place it on top of the covers of whatever mattress on whatever bed, in the same position in which until today we have placed and used an ordinary sleeping pillow. The movement mechanism col-

lects energy in a natural way from the load of the weight of our neck and head, and every time it is released from the load of the weight of our neck and head, and for whatever height it is released, it returns the collected energy in a natural way by raising one of the 4 sides of the sleeping pillow to the same height as the height which it was released from the weight of our head and neck, and specifically, it raises that side which is closer to the point where the mattress ends, tracing an ascending arc of a circle from a 0 degree angle minimum up to a 45 degrees acute angle maximum, and thus it remains waiting in this position while it forms an inclined plane above the covers, and in this position the sleeping pillow is ventilated over the whole area of its lower surface.

[0011] Every time we lie down on the bed to rest or to sleep and lay our neck and head on the neck tension relief pillow with dynamic movement, it starts from the default angle which we have set earlier and traces the length of a descending arc of a circle, while simultaneously it also covers the length of a horizontal movement towards the imaginary line of our spinal column and in a direction opposite to the side of our spinal column until the degrees of the angle of the inclined plane go to zero and the dynamic neck tension relief pillow becomes level or almost level above the mattress. The greater the length of the descending arc of a circle, the greater the length of the horizontal movement which the pillow covers, and the smaller the length of the descending arc of the circle, the smaller is the length of the horizontal movement which it covers towards the imaginary line of our spinal column.

[0012] Every time the neck tension relief pillow receives the load of weight from our head and neck when we lie down on the bed and turn and rest our head and neck on it, and for as much length as it traces a descending arc of a circle until the default angle of inclination becomes 0 degrees, the sleeping pillow finishes its descent on the mattress, and our head and neck finish their descent and rest on the sleeping pillow, with an easy earlier adjustment of the default angle, each time it traces as great a descending arc of a circle as the horizontal length it covers, it copies in a natural way and is exactly the same as the horizontal length which our head and neck cover every time they go up or down on it. With this adjustment of the angle of inclination in the default position, it neutralizes all the horizontal forces which compress our neck and relieves the neck. Usually with this adjustment of the default position, we use it for the whole duration of our sleep.

[0013] Or when it is necessary, we pre-set a little greater incline in the dynamic neck tension relief pillow when it is in the default position so that when we use it, it covers a littler greater horizontal length than the horizontal length which our head and neck cover and in the same direction. The additional horizontal length we adjust at whatever distance we want so that in practice we feel as good as possible if we have a problem with incipient hernias to our neck, and we use it throughout the duration of our

sleep. The sleeping pillow, because it is softer than our neck, changes its shape temporarily and collects the additional horizontal length from the horizontal length given by our neck and head, and since it functions like a spring, it converts this into a force of reaction. It returns this force of reaction to our neck and head throughout the time when we are resting or sleeping on it and with the passage of time, we relieve our neck of the compression stress. When we feel better we bring back the earlier setting and we use it so that when we sleep our neck is not compressed by any horizontal force.

[0014] The dynamic neck tension relief pillow is constructed in two types.

[0015] The second type is a spring all by itself, it collects energy in a natural way when it receives the load of our head and neck on top of it, every time for the whole length of the descending arc of a circle until the inclination of the angle of the inclined plane which it forms from the degrees which we have set in the default position becomes 0 degrees and it returns this functioning by itself in a natural way as a spring for as much height as it is released from our head and neck every time and for as many times as we raise and lower our neck and head during sleep from the angle of 0 degrees of inclination to the greatest and 45 degrees angle of inclination, however it stops following the ascending length of the arc of a circle of our neck and head at the degree of angle of the default setting where we had set and started the descending arc of a circle.

[0016] While the first type additionally also consists of one of the raising devices in order to collect and to return the tracing of the arc of a circle and additionally consists of one or two hinges which unite the two levels which make it up, because these are separate. These two hinges are the center for the arc of a circle which the dynamic neck tension relief pillow traces. When the first type includes the first raising component the sleeping pillow is suspended with elastic rubber in the default position from the minimum of 0 degrees to the maximum of 45 degrees angle of inclination of the inclined surface, it also includes the setting mechanism for the angle of inclination, when it includes the second raising component it consists of the fixed support which is connected at the lower level, of the movable support, and of the elastic rubber. The movable support is based in the perforated stable support where it is suspended from the elastic rubber on the lower side while on the upper side it is connected to one side of the upper level. The rubber raises the movable support and the movable support raises the upper level and the sleeping pillow to the default position from 0 degrees to 45 degrees maximum every time above the covers on any mattress of any bed. The device for setting the default angle is of course also included.

[0017] However we have many choices among many raising devices:

[0018] We can place it on the imaginary axis which unites the hinges and is the center of the levels and use spiral springs of any shape and form, in order to collect

energy and to return it by raising the neck tension relief sleeping pillow to the default position above the mattress from an angle of 0 degrees to a maximum inclination of 45 degrees.

[0019] We have the possibility of using pulling springs so that with an eccentric connection on the two levels of the first type of movement mechanism, the sleeping pillow will be drawn and will tend to rise to the default position with the centre of the arc of the circle always on the hinges.

[0020] We have the possibility of placing a conical helical compression spring between the two levels of the first type of movement mechanism, so that with the hinges as the centre of the arc of a circle, one side of the pillow will rise to the default position above the mattress, always between a 0 degree default angle minimum and 45 degrees maximum.

[0021] Of course we have the possibility with the first type of movement mechanism to use other additional raising components so that the sleeping pillow will be raised to the default position, like for instance counterpoises and other things.

[0022] Additionally the dynamic neck tension relief pillow consists of a pillow which is a collar and we hold our head and neck on it in such a way that they cannot slide on the surface which comes in contact with the pillow, and we have the use of the greatest force in the attempt at horizontal repulsion of our neck and head with a direction opposite to the side of our spinal column, for pulling the neck while we are lying down, and only after a doctor's demonstration, if the doctor allows and for as much time as is indicated.

In addition the movement mechanism consists of an additional supporting component, we can optionally place this component whenever we want between two levels of the movement mechanism. It stabilizes and does not allow the raised side of the dynamic neck tension relief pillow to move and to complete a descending arc of a circle, it strengthens the movement mechanism and makes it more resistant to the load of weight and allows us to watch television or to converse or to read more easily while we are lying on it, since when we lie down on it the upper side of the sleeping pillow remains raised.

[0023] The advantages of this invention are that the dynamic neck tension relief pillow is a sleeping pillow of our choice, any one of the sleeping pillows which are familiar to us all, which circulate on the market, which every one of us has selected and uses today in his/her sleep. If we use this sleeping pillow of our choice in conjunction with the movement mechanism, we develop it, it becomes mobile and gives us the advantage of eliminating all the defects which it had until now because of being fixed on top of the mattress. We keep all its advantages and add new advantages, because in a natural way the invention gives movement to all the familiar sleeping pillows which circulate and will circulate on the market, a movement equal to the arc of the circle and horizontal movement traced by our head and neck during

the time in which we are lying down and sleeping on the dynamic neck tension relief pillow. It relieves our neck from horizontal forces which create compression stress in our neck and since the invention relieves our neck and throat of the energy of horizontal force in the direction of our spinal column, therefore it relieves our neck and throat of one of the reasons, because this horizontal force which presses on the muscles and the vertebrae of our neck in a direction towards our spinal column, or compression stress, is sometimes although not always a cause which creates or continues health problems to our neck and throat, since many times deformation is created to various members making up our neck and throat, with the passage of time, because it functions by adding.

[0024] For the second kind, the second type has the advantage that it converts the non-anatomic simple classical sleeping pillow to an anatomical pillow, and in general the second kind and all the types of the invention have this advantage, that they convert non-anatomic sleeping pillows to anatomic sleeping pillows. This is an advantage because we increase the surface area of our neck which comes in contact with the surface of the sleeping pillow. Thus we reduce the pressure which is vertical to our neck during the time we rest or sleep per cm and at the same time we relieve the points of the neck which do not come into contact with the surface of the pillow of small but existing forces of bending which they received on that specific point.

[0025] The dynamic neck tension relief pillow has the advantage that it becomes softer, it absorbs the sudden vibrations, the movements of our head and neck on top of it become calmer because it functions as a suspension and gives our neck and head the advantage of not receiving sudden compressions but softer ones, balancing on it in a position where it receives the least compression.

[0026] With the first type of the second kind we have the advantage of using all of the sleeping pillows which are familiar to everyone in all types and all qualities which exist on the market, in all the heights.

[0027] We also have the advantage that when want to use a simple classical non-anatomic sleeping pillow of natural or synthetic fibers or of feathers, we can attach the appropriate additional component to the bottom part of the upper level of the movement mechanism, and this converts the simple non-anatomic classical sleeping pillows to anatomic pillows.

[0028] When we see the dynamic neck tension relief pillow on the mattress in the default position and it is set to allow us to lie down on it, usually it forms an inclined plane. In this higher default position I believe that the dynamic neck tension relief pillow has the advantage that is more tasteful to the lady of the house.

[0029] In addition in this higher default position the invention gives the sleeping pillow the advantage of being aerated from the bottom side as well, something which I believe is also desirable to the lady of the house because the sleeping pillow becomes healthier for the person. This invention has the possibility of working together with all

the sleeping pillows which are familiar to everyone which circulate on the market in all qualities, all types and all dimensions, and it does not alter its height.

[0030] The movement mechanism converts the sleeping pillows to dynamic neck tension relief pillows in a natural way. The driving force is the load of weight from our neck and head.

[0031] The great advantage of this invention is that in practice these movements of the dynamic neck tension relief pillow are the same as the horizontal movements which our neck and head make, when we turn our neck and head and rest or sleep on top of it. We have the possibility, with the setting mechanism, to set it so that it gives exactly the same length of horizontal movement as our neck and head give and since it also has the same direction, with this setting we have the possibility of neutralizing the difference in length of movements. In this way we achieve the same length of horizontal movement of the sleeping pillow as the horizontal length given by our head and neck, so we neutralize the horizontal force which until today has acted on and compressed our head and neck into stress during the time we were resting or sleeping on a plain sleeping pillow without a movement mechanism. In many cases the horizontal force which acts on our neck with a direction toward our spinal column, with the passage of time and if our neck is prone to be sensitive, succeeds in overcoming the muscles' defences and if we do not use a dynamic neck tension relief pillow one or more than one vertebra give way under the pressure of compression stress, and then a temporary deformation to the various members which make up our head and neck begins, and although our organism is healthy, the quality of our lives and of those around us becomes ugly, like for instance, snoring, or when the root of a nerve is lightly pressured for the first time because the vertebrae have given way and because of the results of this giving way, the root of a nerve which gives orders for the functioning of the right hand, then we have unbearable pain.

[0032] In these cases if we use the dynamic neck tension relief pillow as a tool in the service of our organism, with the appropriate setting we increase the horizontal movement which the dynamic neck tension relief pillow creates in order to make it greater than the horizontal movement given by our neck and head, the length of this additional horizontal movement is converted at the time we lie down on top of the invention to a force which has an opposite direction to the side of our spinal column.

[0033] This new force is distributed equally to every vertebra, kept small, is safe, and attempts to push back the vertebrae by exactly the same amount for each one, in a direction opposite to the side of our spinal column. Thus if we use the dynamic neck tension relief pillow during all the time we lie down to rest or to sleep, with the passage of time the vertebrae stop subsidence, our organism receives an advantage, and we can feel the attempt to restore the circulation of functions in the members of the throat and neck and of our vertebrae to their

natural form, position and functioning.

[0034] Putting the dynamic neck tension relief pillow to use as a tool in the service of our organism gives us an advantage for our organism but also to the doctor or physical therapist in their attempt to heal us if the various members which make up the throat and the neck have undergone temporary deformation and not permanent, irreversible deformation.

[0035] When we feel in practice that we have gotten better in our neck but also in our back, we reset it using the setting mechanism and return to the setting at which when we lie down on top of the invention, our neck does not receive any horizontal compression at all, whether stress or pulling.

[0036] We have the possibility to choose the appropriate setting in practice for every case in order to improve as much as possible the health of our neck and throat and we feel this improvement in practice.

[0037] The horizontal force which the dynamic neck tension relief pillow creates when we have set it and it relieves our neck is lessened a great deal because the sleeping pillow, since it changes shape more easily than our neck, absorbs the movement and undergoes temporary deformation. Since however it wants to return to its natural shape it now acts like a spring and transfers to our head and neck a small force of attraction or repulsion which for the time space when we are relieving the neck has the advantage that it is safe.

[0038] In addition the length of this horizontal movement which the dynamic neck tension relief pillow creates is small, we set it to whatever value we want. It is never transferred by itself, it maintains itself and is always distributed evenly per unit of length to the whole length of our neck and of course if we finish the process of relieving the neck from compression stress, then we set the angle of the sleeping pillow, approximately from 0 degrees to 25 degrees in order to neutralize all the horizontal forces which compress our neck, whether they are compression or pulling and once we understand in practice how to relieve our neck of all the horizontal forces then at this setting we can use the dynamic neck tension relief pillow for an indefinite time with complete safety, in order to maintain the improved health of our neck and throat and by extension the quality of our lives.

Figure 1 shows a movement mechanism in a perspective which brings back the movement with the attraction rubber (4) as a means of raising and when we use an additional component of raising, for brevity we call this the first type, on which we can place any kind of sleeping pillow of our choice, whenever we want, and for brevity we call this the second kind. Figure 1a and 1b show two side views of the movement mechanism. Figure 1c shows another side view which hypothetically symbolizes our spinal column, our neck and head by approach.

Figures 1d and 1e show two other side views of the first type of movement mechanism with a sleeping

pillow (8) permanently by its construction incorporated on top of it, and for brevity we call it the first kind, or also portable mechanism with another kind loaded onto it.

Figure 2 shows a movement mechanism in perspective which returns the movement by itself without additional means of raising and for this reason for brevity we call it the second type. We can place any sleeping pillow (8) we want on top of it, whenever we want, second kind.

Figures 2a and 2b show two side views of the movement mechanism.

Figures 3 shows a movement mechanism of the second type in perspective, which is from its construction incorporated with any sleeping pillow (8) of the first kind or carries any sleeping pillow whenever we want it to carry a sleeping pillow (8), and place and hold it on top of the second kind.

Figures 3a is a side view of the dynamic neck tension relief pillow.

Figures 4 shows a movement mechanism in perspective, which brings back the movement with the attracting rubber (4) which is held on the edge of the pierced stable support (6) and raises the dynamic neck tension relief pillow by raising the movable support (9) which is based inside the stable support (6) and is another different additional raising component and therefore we call this movement mechanism the first type for brevity, which is incorporated from its construction permanently with any sleeping pillow (8) of the first kind, which circulate or will still circulate, or we place any sleeping pillow (8) on top of it whenever we want to, we usually want what we like, the second kind.

Figure 4a shows a side view of the dynamic neck tension relief pillow. Figure 4b shows another side view of the dynamic neck tension relief pillow.

[0039] One way of using the invention is described with reference to the figures.

[0040] The dynamic neck tension relief pillow consists of a sleeping pillow (8) and a movement mechanism.

[0041] The sleeping pillow (8) is any one of the sleeping pillows, without exception, which exist and it does not need any more description because it is well known.

[0042] The other part of which the invention consists is the movement mechanism of the sleeping pillow (8). It raises the side (M) of the sleeping pillow (8), tracing an ascending arc of a circle, while simultaneously it gives a length of horizontal movement, and it is constructed in two types. In the figures 1 refer to the two types.

[0043] The movement mechanism consists of a base (1). On the bottom part of the base in the first type there is a hinge (7). The hinge is connected to the upper level (2) and allows it to move in a half rotation tracing an arc of a circle increasing the angle (n) up to 45 degrees and decreasing the angle (n) down to 0 degrees.

[0044] In the first type nothing obstructs the invention

from finding an application and with various raising components because we have many choices, to raise the upper side to the default position (M) of the dynamic neck tension relief pillow in order to form the angle (n) towards the mattress and from 0 degrees to and including 45 degrees.

[0045] In figure 1 we see that the upper plane (2) is connected to the upper side with the rubber (4), the rubber of attraction (4) hangs from the support (6) interposing the setting mechanism (3), through the setting mechanism (3), we stretch or release the rubber (4) and in this way we increase or decrease the angle (n) of the movement mechanism to the degrees desired by us when it is in default position, with the acute angle (n) we have the possibility of setting it through the setting mechanism (3) from 45 degrees maximum to 0 degrees minimum when the movement mechanism is in default position.

[0046] The descent of plane (2) is achieved of course with the load from the weight of our head and neck.

[0047] In figure 1a we see that the two planes (1) (2) are set to form between them the default position acute angle (n) 20 degrees. In figure 1b the levels (1) and (2) are set to be parallel in the default position and the angle (n) is 0 degrees.

[0048] In addition in figure 1b we see that the setting mechanism (3) is suspended on the side of the support (6). The support (6) is pierced and we have the possibility for the rubber (4) to be placed inside it and the setting mechanism to be located where the rubber comes out.

[0049] For the first type in figure 4 we see another raising component which raises the level (2) or the sleeping pillow (8).

[0050] This raising component consists of the stable support (6). Inside the stable support (6) is based the mobile support (9), the mobile support (9) is constructed preferably from teflon material or ertalon or any other appropriate material which bends easily.

[0051] Inside the stable support (6) is the rubber of attraction (4), the rubber (4) is held on the edge of the stable support (6), is based on the bottom part of the mobile support (9) and raises the sleeping pillow (8) by means of the moving support (9) (of course, instead of rubber we can also use a helical spring or counterweights), at the point where the rubber (4) comes out of the stable base (6) we suspend the setting mechanism (3), with the setting mechanism (3) we stretch the rubber (4), the level is raised more (2) and we increase the acute angle (n) of the sleeping pillow in relation to the mattress.

[0052] The maximum we can increase the angle (n) with the setting mechanism (3) in the default position 45 degrees and the minimum we can decrease the angle (n) with the setting mechanism (3) in the default position of the movement mechanism is 0 degrees.

[0053] This reintroduction component does not show when the dynamic neck tension relief pillow is on top of the bed in the default position because the stable support (6) is under the bed, between the mattress and the bed.

[0054] In the perspective of figure 1 we see the com-

ponent (5) which holds the sleeping pillow (8) on top of the second kind of the first and of the second type of movement mechanism. The holding component (5) is elastic and with preferably two plastic or elastic hooks on the edges or clips.

[0055] The second type for the first and second kind in figure 2 and figure 3 functions as a unified spring (1) and (2) level of reintroduction of the movement which raises the side (M) of the sleeping pillow (8), increasing the acute angle (n) to 45 degrees maximum, consists of the cord (11) which connects the levels (1) and (2), it is held on one level and based on the other level. At the point where the cord is based, we suspend the setting mechanism (3) and with the help of the setting mechanism (3) we increase the length of the cord (11) on the second type and in this way we can increase the angle (n) of the neck relief sleeping pillow to degrees the minimum at the default position, usually however we set it and use it at 0 degrees to 25 degrees. It consists of the protective stopper (10), is portable and we place it or we remove it whenever we want to on the first and second types, it is placed between the bed and the mattress and it does not show. In this way we stabilize the dynamic neck relief pillow on top of the bed.

[0056] Figure 3 shows the setting mechanism (3) in a different position than figure 2. We have this possibility when our work becomes better.

[0057] The scale at which I have figured the movement mechanism of the dynamic neck relief pillow is 1 to five on all the figures.

[0058] Figure 2 shows two side views, figure 2a and figure 2b. The acute angle (n) on figure 2a is set to the maximum, 45 degrees.

[0059] In the default position when we lie down or rest or sleep, we turn our neck together with our head on top of the sleeping pillow (8). Level (2) of the movement mechanism from the weight which our head and neck have because of gravity, moves towards the earth tracing an arc of a circle with a downward direction until the angle (n) is decreased to 0 degrees and the (2) level comes into parallel position with level (1) as in figure 2b, in this position of the figure 2b forces are created which are equal and opposite to the weight of our neck and head, and our head and neck stop their downward movement and balance on top of the invention.

[0060] Since we have divided level (2) into equal distances from the beginning of the lower side (A) to (B), from (B) to (C), from (C) to (D), from (D) to (E), from (E) to (Z) and we end up at the end of the upper side of level (2) which is (H) on figure 2a, we see in practice that when level 2 was moved downward by the weight of our head and neck, it traced an arc of a circle and took the form of figure 2b, we see however that simultaneously with the arc of the circle it also made one more horizontal movement towards level (1) which remains stable in a direction opposite to the side of our spinal column.

[0061] This horizontal movement has a length at the beginning of level (2) in position (A) which is also the

centre of the arc of a circle of zero millimeters, at the ending of the upper side of level to at point (n) it gives a length equal to 75 millimeters. In addition we see that the length of this horizontal movement through the movement mechanism of the first and second types, is distributed over the whole length of the level in exactly equal distances by length of division of the surface, that is which we divided: point (B) from the 45 degree angle where it was in the default position to the 0 degrees to which it descended gave a length of horizontal movement of approximately 15 millimeters, point (C) from 45 degrees to 0 degrees gave a length of horizontal movement of 15 millimeters of (B) plus 15 millimeters of its own, point (D) from the 45 degrees to the 0 degrees of the arc of the circle which it traced gave a length of horizontal movement of 15 millimeters of (B) plus (15 millimeters) of (C) plus 15 millimeters of its own, point (E) from the 45 degrees until 0 degree angle (n) descent gave a horizontal movement of 15 millimeters of (B) plus 15 millimeters of (C) plus 15 millimeters of (D) plus 15 millimeters of its own, point (Z) until it descended from the 45 degree acute angle (n) of figure 2a to the 0 degree angle (n) of figure 2b gave a horizontal movement of 15 millimeters of (B) plus 15 millimeters of (C) plus 15 millimeters of (D) plus 15 millimeters of (E) and plus 15 millimeters of horizontal movement of its own, gives us in total approximately 75 millimeters of route of horizontal movement.

[0062] Of course it is not necessary for the descent to start from the default position (n) of 45 degrees, we can start the descent of level (2) from a default angle (n) which is much smaller than 45 degrees like in the figures 1a, 1b, 1c, 1d and 1e. However, this acute default angle (n) will be set by us to the degrees which please us or to the degrees which the doctor or physical therapist indicates to us each time we use the dynamic neck tension relief pillow. I believe that the angle (n) which is most pleasing is around from 0 degrees to about 25 degrees.

[0063] In this way since we see in figures 2a and 2b that the horizontal movement of the movement mechanism is distributed in the same way to the whole length of the surface which comes into contact with our head and neck per unit of length. That means that the horizontal movement that is created and transferred to us per unit of surface area is distributed with complete safety and we are not in danger, at some more vulnerable spot along the length of our neck, that there may be an attempt at greater lengthening, either more durable or weaker, all the points of our neck receive exactly the same length of reintroduced horizontal movement, in the natural position along all the length where our neck and head are in contact with the sleeping pillow (8).

[0064] In addition if the horizontal force which is created by the dynamic neck tension relief pillow is greater than the factor of friction of slipping with our head and neck, then we have slipping and so again we are completely safe with the use of the dynamic neck tension relief pillow.

[0065] Figure 4, beyond the perspective, also shows

two side views. Figure 4a and figure 4b. Figure 4a shows the sleeping pillow (8) in default position with acute angle (n) approximately 45 degrees, figure 4b shows the sleeping pillow (8) with angle (n) approximately 0 degrees.

[0066] If with the load of the weight of our head and neck or with the setting mechanism (3) we force the dynamic neck tension relief pillow to descend down and to trace the length of the arc of a circle from the default angle (n) of 45 degrees shown by figure 4a to the 0 degrees shown by figure 4b, then the sleeping pillow on its upper side and we take the height (I), the height (K), the height (L), we also have the edge of the sleeping pillow (U) and the edge (M). When the sleeping pillow (8), from the default angle (n) of 45 degrees which is shown by figure 4a, scends and becomes horizontal in relation to level (1) or in relation to the mattress, then figure 4b and the angle (n) becomes 0 degrees at point (K) where the height is approximately 50 millimeters, on the upper level it will move (K₁) approximately 35 millimeters of horizontal movement because of its height, to point (L) where the height of the sleeping pillow (8) is approximately 65 millimeters, it will be moved on its upper surface (L₁) approximately 45 millimeters horizontally at point (I), the sleeping pillow will be moved horizontally on its upper surface when it becomes horizontal and comes into a position like that of figure 4b parallel with level (1) because of its height, which is approximately 85 millimeters, it will give a horizontal movement (I₁) of approximately 60 millimeters.

[0067] In figure 1c we compare, completely hypothetically, part of our spinal column with our head and neck.

[0068] We take hypothetically the lengths of 7 vertebrae which are equal to each other (Q, T, Y, F, X, W, V), we have hypothetically raised our head to an angle (n) 22,5 degrees in relation to our spinal column, if now we lower our neck and head to an angle (n) of 0 degrees then our head and neck come into an exact horizontal line with the imaginary line of our spinal column, measuring now the distances (Y, F, X, W, and V), we see exactly how much is the horizontal length which corresponds to each separate vertebra when it traces the arc of a circle in relation to the imaginary line of our spinal column, we have at point (Y) horizontal displacement equal to 2,5 millimeters. At point (F) horizontal displacement equal to 5 millimeters. At point (F) horizontal displacement is equal to 5 millimeters. At point (X) horizontal displacement is equal to 7,5 millimeters. At point (W) horizontal displacement is equal to 10 millimeters. At point (V) horizontal displacement is equal to 12,5 millimeters. We see also that the length of the horizontal movement is distributed equally in 2,5 millimeters to every equal length between the hypothetical vertebrae of the neck along all the length of our hypothetical neck and hypothetical head, which come into contact with the upper surface of the sleeping pillow (8).

[0069] And since the horizontal movement of the movement mechanism in relation to level (1) is distributed in exactly the same way per unit of surface area to the

whole length of the sleeping pillow (8) as we see in figures 2a and 2b, we do not run the slightest risk of compressing any point of our neck in any case because we have exactly the same way of creating horizontal movement with this to our head and neck.

[0070] On the contrary, we can very easily, by means of the setting mechanism (3), set and stabilize the default angle (n) at such an angle that we can use the horizontal movement of the movement mechanism to relieve, with complete safety, all the vertebrae of the neck up to a point in our spinal column of the smallest horizontal compression during our sleep, as we see in figure 1c, 1d and 1e. It is supposed that they represent and cover all of our necks without exception and of the movement mechanism of the second and third kinds in whatever way and if they raise one side (M) of the sleeping pillow (8), it is enough for the movement mechanism to restore any sleeping pillow to the default position above the mattress in a natural way, in order to convert it to a dynamic neck tension relief pillow with safety for our health.

[0071] Figure 3 shows in perspective a movement mechanism of the first and second kinds of the second type, the perspective shows how the movement mechanism carries a sleeping pillow (8) on level (2), one of the sleeping pillows known to us all, simple, classical, non anatomic, in the default position with angle (n) 45 degrees.

[0072] Figure 3a shows at point (8a) the form which the sleeping pillow (8) takes when we relax or sleep on it at an angle (n) of 0 degrees, at point (8a) the soft non-anatomic sleeping pillow has become anatomic because it has followed the form (1A) of the above level (2) of the movement mechanism.

[0073] Figure 3a shows the gap (1a) between the two levels (1 and 2) of the movement mechanism of the second type which is created at the time we have turned our neck and head on the sleeping pillow (8) and we lie and rest or sleep. This gap allows the sleeping pillow (8) to be aerated from the lower side as well at point (8a) where our neck and head come into contact with the sleeping pillow (8).

[0074] In this way, when we are sleeping or resting on the dynamic neck tension relief pillow, it becomes more healthy because if our neck happens to sweat the sleeping pillow is kept drier and healthier because it is aerated.

[0075] In the first type of movement mechanism in the figures which are presented here only two different means of raising have been used. However, the use of three or more different components is not prevented, and indeed, components of other different designs and dimensions which raise the side (M) of the sleeping pillow (8) in different ways and simultaneously give a length of horizontal movement.

[0076] Nothing prevents the dynamic neck tension relief pillow from having different shapes, different dimensions, and being constructed from different materials which are healthy and good for human beings.

Claims

1. The dynamic neck tension relief pillow consists of a sleeping pillow (8) which is one of those commodities known to all of us without exception, which we can place on the covers of any mattress on any sleeping bed, and almost all of us use it when we lie down and rest or during our sleep for as long as we sleep on it.

The sleeping pillow is simple, classical non anatomic or anatomic or ergonomic, can be constructed from natural or synthetic fibres or from feathers of birds or from natural or synthetic foam material, and more generally it comes in all types, all qualities and all dimension, it is **characterized by** also consisting of a movement mechanism which has an accumulating tendency to rise and when it is relieved of the load of the weight created by our head and neck, and for whatever height it is relieved, it raises each time, in a natural way, one of 4 sides of the sleeping pillow (8) and specifically side (M), tracing an ascending arc of a circle from an angle (n) of 0 degrees minimum to a 45 degree a cute angle maximum in relation to the mattress or the imaginary line of our spinal column, and thus the dynamic neck tension relief pillow forms an inclined plane when it is above the covers of any mattress on bed in the default position, and the sleeping pillow comes into contact with the air of its environment from the lower side as well. Every time the dynamic neck tension relief pillow with motive force, receives the load of the weight of our head and neck, it begins from the default angle of (n) which we have set with the setting mechanism (3) and traces a length of a descending arc of a circle while simultaneously giving an accumulated length of horizontal movement, until the degrees of angle (n) are neutralized and the side (M) ends its descent over the mattress, the length of the horizontal movement (I_1 plus I_2 , K_1 plus K_2 , L_1 plus L_2 , O_1 plus O_2 , P_1 plus P_2 , R^A plus R_2 and M_2) in relation to the imaginary line of our spinal column and with a direction opposite to the side of our spinal column, is larger or smaller according to whether the angle (n) at which the descent of side (M) begins is correspondingly larger or smaller.

The dynamic neck tension relief pillow, follows each time the angle (n) that we have set with the setting mechanism (3) with an analogous adjustment, and copies the arcs of a circle which our head and neck trace in their descent but also their ascent when we lie down and rest our head and neck on it for as long as we rest or sleep on it, or it simultaneously follows every arc of a circle and copies it in a natural way, and gives exactly the same horizontal length as our head and neck give. It relieves our neck of all the horizontal compressions and usually we use it this way.

Or when necessary we previously set a greater angle

(n) with the setting mechanism (3) and every time it gives a little greater horizontal length than the length of horizontal movement (T, Y, F, X, W, V, and N) which our neck and head give, it accumulates the additional horizontal movement, it converts it to horizontal force and it returns it with the same direction to our neck for all the time we are sleeping on it, trying lightly to push it back.

The dynamic neck tension relief pillow comes in two kinds, it is portable and constructed in two types, The dynamic neck tension relief pillow is placed on top of the covers of any mattress on any sleeping bed in exactly the same place where we today place the sleeping pillow that we sleep on.

The second type of dynamic neck tension relief pillow consists of the levels (1, 2), the levels (1) and (2) are a unified spring giving thus in reaction a rising movement to level (2) so that it comes back automatically to the default position at an acute angle (n) as many degrees as we want and have previously set from 0 degrees minimum to 45 degrees maximum. Usually we use it from 0 degrees to 25 degrees. The sleeping pillow, as it traces the arc of a circle, every time coming down with the weight of the load of our head and neck, which is also the driving force, simultaneously also gives the horizontal movement which it also accumulates, converts to horizontal force, and returns to our neck with a direction opposite to the side of our spinal column during all the time we sleep on it, attempting lightly to push back our neck and head. Consists of the setting mechanism (3) by means of which we can set the default angle (n) from 0 degrees to and including 45 degrees. Usually we set it between 0 degrees and 25 degrees so the dynamic neck tension relief pillow can copy and give back exactly the same horizontal length with our neck and head in order to neutralize all the horizontal forces which act upon, compress and tend to cause deformation in all the movements and to all the members which make up our head and neck over all the area of the cross-section of our head and neck or to set the default angle (n) to the degrees which we feel to be the best and most pleasant when we use the dynamic neck tension relief pillow during all the time when we are sleeping on it. The second type of movement mechanism consists also of component (5) which holds the sleeping pillow (8) on level (2) on the second kind of dynamic neck tension relief pillow.

It consists of the sleeping pillow (8), whether this is permanently constructed, incorporated with the movement mechanism, the first kind whether this is portable and we place it or take it off whenever we want to on the level two of the second kind, and so the sleeping pillow known to us all which we have used until today, has now been made by us into the dynamic neck tension relief pillow. It consists of the protective stopper (10) and we place it in the gap

between the place where the mattress ends and the skeleton of the bed, and we stabilize the dynamic neck tension relief pillow from unwanted displacements, it consists of the flexible cord (11) which connects level (1) and level (2) and holds the dynamic neck tension relief pillow at the desired default angle (n) in relation to the mattress or in relation to the imaginary line of our spinal column

2. The dynamic neck tension relief pillow, according to claim 1, is **characterized by** the fact that the first type consist of an additional component for restoring side (M) to the default angle (n) in a natural way from 0 degrees to 45 degrees maximum, usually we set it between 0 degrees and 25 degrees, because it noiselessly accumulates energy during its descent and after that it noiselessly transfers it during the ascent, every time, since for this height it is relieved of the load of the weight of our head and neck.

The first raising mechanism consists of the stable support (6), it also consists of the rubber of attraction (4) where on the stable support (6) the rubber of attraction (4) is suspended with which we attract side (M) of the sleeping pillow (8) to the default position.

The second raising component consists of the stable support (6), it consists of the moving support (9), it also consists of the rubber of attraction (4) in the place of which could be placed a helical pressure or attraction spring or where inside the stable pierced support (6) is based the mobile support (9) which is raised by the rubber of attraction (4), raising in its turn side (M) of the sleeping pillow (8) to the default position above the covers of whatever mattress on whatever sleeping bed.

We have however many choices among many raising components.

We can place and use a spiral spring of any shape or form on the imaginary axis which unites the hinges (7) and is at the centre of levels (1) and (2), as long as it raises one side (M) of the sleeping pillow (8) to the default position above the mattress in a safe and healthy way.

We have the possibility of using the attraction spring in order, with an eccentric connection to (1) and (2) levels, to attract and to tend to raise level (2) to the default position with the hinge (7) as the centre of the arc of a circle.

We have the possibility of placing a conical helical pressure spring between levels (1) and (2) in order that with the hinges (7) as center, side (M) of the sleeping pillow will rise to the default position above the mattress.

We have of course the possibility with the first type to also use other additional components in order to raise side (M) to the default position like for instance counterweights and others.

The dynamic neck tension relief pillow in the first type consists of one or of two hinges (7) which is the centre

of the arc of a circle which level (2) traces, it consists of level (1), consists of level (2) which is separate and the hinges 7 connect them, it consists of the setting mechanism (3), the accessory (5) holding the pillow (8) above level (2) on the second kind, it consists of course of the sleeping pillow (8), permanently incorporated with the movement mechanism in the first kind, or which we ourselves place or hold above level 2 of the second kind, it consists also of the stopper (10).

3. The dynamic neck tension relief pillow, according to claims 1 and 2, is **characterized by** the fact that in the first kind the sleeping pillow (8) is of all the qualities, all the types and all the dimensions, it is permanently incorporated in its construction with the movement mechanism of the second and of the first types and is unified with them.
4. The dynamic neck tension relief pillow, according to claims 1 and 2, is **characterized by** the fact that in the second kind the sleeping pillow (8) which we use is one of those which circulate on the market of all qualities, all types and all dimensions, which are portable and which we ourselves rest or hold above level (2) of the movement mechanism, of the second and first type, it is converted into a dynamic neck tension relief pillow and its height does not change when we use it. Whenever we want we can remove it or easily disconnect it and remove it from the movement mechanism.
5. The dynamic neck tension relief pillow, according to claims 2 and 4, is **characterized by** the fact that in certain cases, optionally, it also consists of an additional component which has curves like the shape of our neck and converts the non-anatomic classic sleeping pillow (8) into an anatomic and aerated pillow, whenever we want we can place it portably on the lower part of the upper level (2) on side (0) of the hinges to a little above.
6. The dynamic neck tension relief pillow, according to claims 1 and 2, is **characterized by** the fact that in some cases it consists optionally also of the sleeping pillow (collar), so that if there is a recommendation by a doctor or physical therapist we use it in order to rest and hold our head on the upper side of the appropriately formed collar of the pillow and pull (or push) our neck and head in a direction opposite to the side of our spinal column, for as much time as is indicated during the time we lie down and rest on the bed and on the dynamic neck tension relief pillow.
7. The dynamic neck tension relief pillow according to claims 1, 2, 3, and 4 is **characterized by** the fact that it optionally consists of a supporting component in certain cases which sets and stabilizes the angle

(n) in cooperation with the setting mechanism (3) to different degrees, strengthens level (2) and (1) so that we can hold our head raised when we want to while we are lying on the bed and we are using the dynamic neck tension relief pillow.

This component support which stabilizes the angle (n) at the degrees which we want is optional, portable and we place it if and when we want. when we want.

8. The dynamic neck tension relief pillow, according to claims 1, 3 and 4, is **characterized by** the fact that it converts the non-anatomic simple classical sleeping pillows to anatomic pillows at point (8a) and of course is movable.
In addition on the lower part of the invention where our neck comes in contact with the sleeping pillow (8a) at the point (1a) it gives the possibility to the sleeping pillow to be aerated while we are sleeping on in because of the small gap which is created along all the length on the lower side (1a) of the pillow (8).
9. The dynamic neck tension relief pillow according to claims 1, 2, 3, 4, 5, 6 and 8 is **characterized by** the fact that it offers us a new method to utilize when we lie on the bed and lay our neck and head on its upper surface (8) in order to relax or to sleep.
First way: with the appropriate setting by means of the setting mechanism (3) it gives exactly the same horizontal length of movement with our neck and head and in the same direction simultaneously. In this way we neutralize all of the horizontal forces which compress the neck and all the members which make up our head and neck, relieving our neck of every horizontal exterior load.
Second way: the dynamic neck tension relief pillow is **characterized by** the fact that it gives us the possibility with the appropriate setting by means of the setting mechanism (3) to help our organism through this new method, the doctor and the physical therapist in the case that our neck is sensitive and prone to injury and the compression stress which acts on our neck with the passage of time has overcome the resistance of the muscles of our neck, the spaces between the vertebrae have decreased and it has caused temporary deformation to one or more than one or even to all the members which make up our neck and head, setting the sleeping pillow (8) to a default angle of as many degrees as will give a little greater length of horizontal movement than the length of horizontal movement which our neck and head give, towards the imaginary line of our spinal column, of course in the direction of this horizontal movement opposite to the side of our spinal column and with distribution exactly the same per unit of length to the whole length where our neck and head come into contact with the upper surface of the sleeping pillow (8).
This additional horizontal movement which the

sleeping pillow (8) gives us with the use of this new method, when, that is, we use the dynamic neck tension relief pillow, is converted to a horizontal force which acts and is distributed in an absolutely controlled way and equally to every unit of length of all the vertebrae of our neck along the length of the surface where our neck and head come into contact with the upper surface of the sleeping pillow (8) and has a direction opposite to the side of our spinal column relieving our organism of compression stress and the additional movement which of course has also been converted to a force acts on our neck and throat and our head with a direction exactly opposite to the force which acted until today and caused us compression stress.

Now with the use of the dynamic neck tension relief pillow in the analogous setting of the degrees of angle (n) we cause a repulsion of the vertebrae of our neck and head in the opposite direction to the side of our spinal column and also follow an exactly opposite process.

With the passage of time, while at first until today there was an attempt at subsidence of the vertebrae of our neck now there is an attempt to restore them to their original, natural spaces and our organism, now relieved of the compression stress and with the tool of the new method which gives us the horizontal external power which now repulses (while we are lying on the bed and rest our neck and head on the upper surface of the sleeping pillow (8) to rest or to sleep) the vertebrae of our neck in a direction opposite to the side of our spinal column. Our organism has a much greater hope of bringing back the muscles after the passage of the muscles to their original natural state and tolerance, if they have not suffered permanent weakening.

Our organism can bring back the vertebrae of the neck to the original natural spaces between them if they have not suffered permanent subsidence.

Our organism can acquire the correct circulation of the blood and other liquids which circulate in our neck and which pass from our neck to our throat, if the vessels through which they circulate have not suffered permanent deformation.

The thick sliding material which is located between the vertebrae can be brought back by our organism, always with the help of a doctor or physical therapist, as much as possible to its original natural form and functioning, if it has not suffered permanent deformation from the compression stress.

Of course the spinal marrow should not be pressured in order to bring back our organism to its original correct natural circulation if the vessel has not suffered permanent deformation.

The breathing passage should not be pressured and deformed in order to reduce as much as possible the intensity and the duration of the snoring of those who snore in their sleep.

The nerves should not be pressured by subsidence of the vertebrae and deformations in order to correctly transfer in the determined natural time the orders of our brain to the parts of our body and vice versa.

If we use the new method in the second way for a period of months in practise our organism improves the health of our neck.

When we, the doctor or the physical therapist judges that our neck has returned sufficiently satisfactorily to its original natural state and the functions of its members are natural enough, then the dynamic neck tension relief pillow is **characterized** as with the appropriate setting reducing the degrees of the angle (n), the setting returns so that when we use it, it functions in the first way.

The horizontal force which the dynamic neck tension relief pillow creates in the first and second way of using this new method, acts on our neck and head as an exterior parallel force, since, however, when we lie on the bed to sleep, we lay and support our head and neck on the upper surface of the sleeping pillow (8), throughout the duration of our sleep we usually alternate all the positions, that is we sleep in the right side position, in the left side position, on our backs, on our fronts with the head turned to the right and on our fronts with the head turned to the left. In this way we cover and relieve perimetrically through 360 degrees our neck and head and all of the members which make it up more generally over the whole area of their cross-section, the reason why problems and compression stress are caused for us or will be caused in the future with the passage of time.

At the same time the horizontal force remains completely controlled both in the length it gives back and in the size of the force from the dynamic neck tension relief pillow.

It is thus completely safe because even in the case in which something unforeseen goes wrong, the horizontal force cannot exceed the size of the friction between our neck and head and the upper surface of the sleeping pillow (8) and there will be sliding between them and not excessive repulsion compression (attraction), when we utilize the new method in the first and second ways.

Many functions of our neck and head are conditioned by the law of distribution of a closed circle of liquids according to biomechanical engineering. The dynamic neck tension relief pillow helps the muscles as an external parallel force which acts on our neck and throat to preserve this closed circuit of our functions in natural circulation as much as possible and in good condition, without shrinkages from deformations caused by pressure, relieving our organism in this case, while we are resting or sleeping, of the cause which pressures and attempts with the pressure it creates to obstruct the natural circulation of the blood, liquids, inbreathing and outbreathing of

air and the movement of orders, and this cause is in many cases, compression stress.

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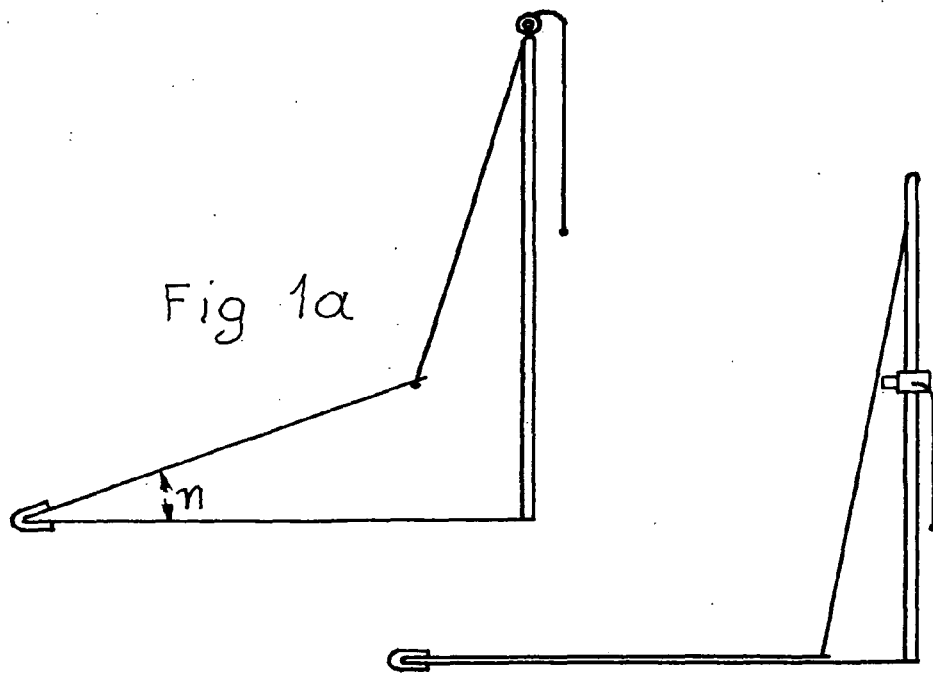
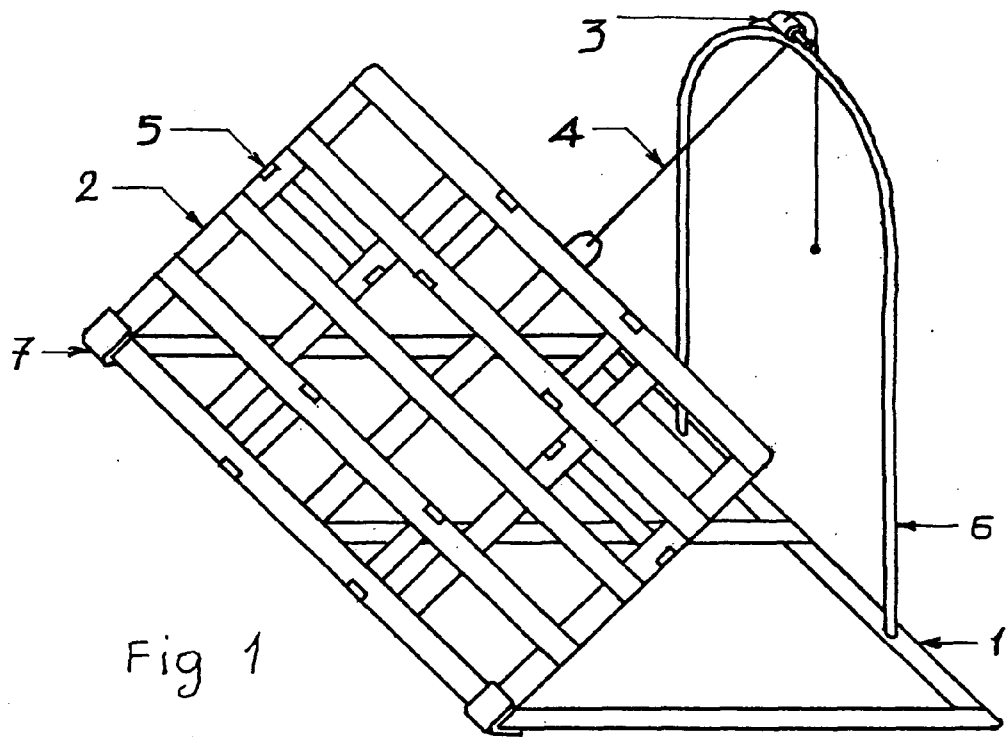
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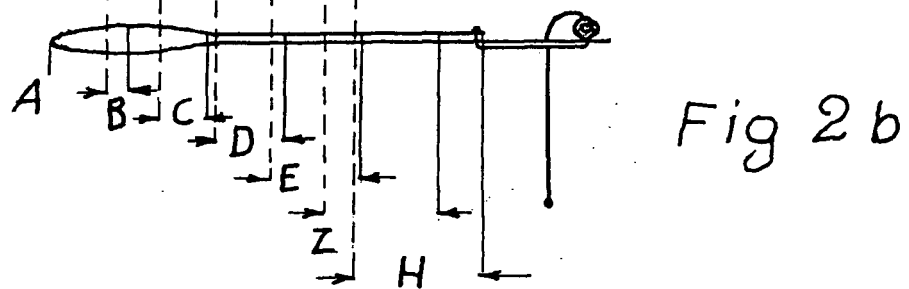
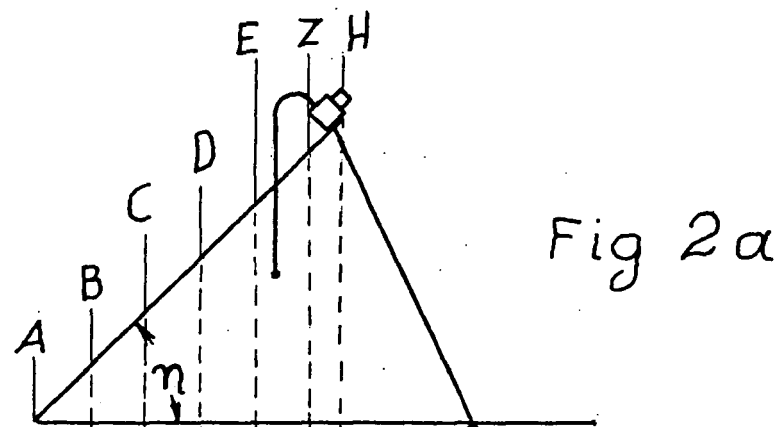
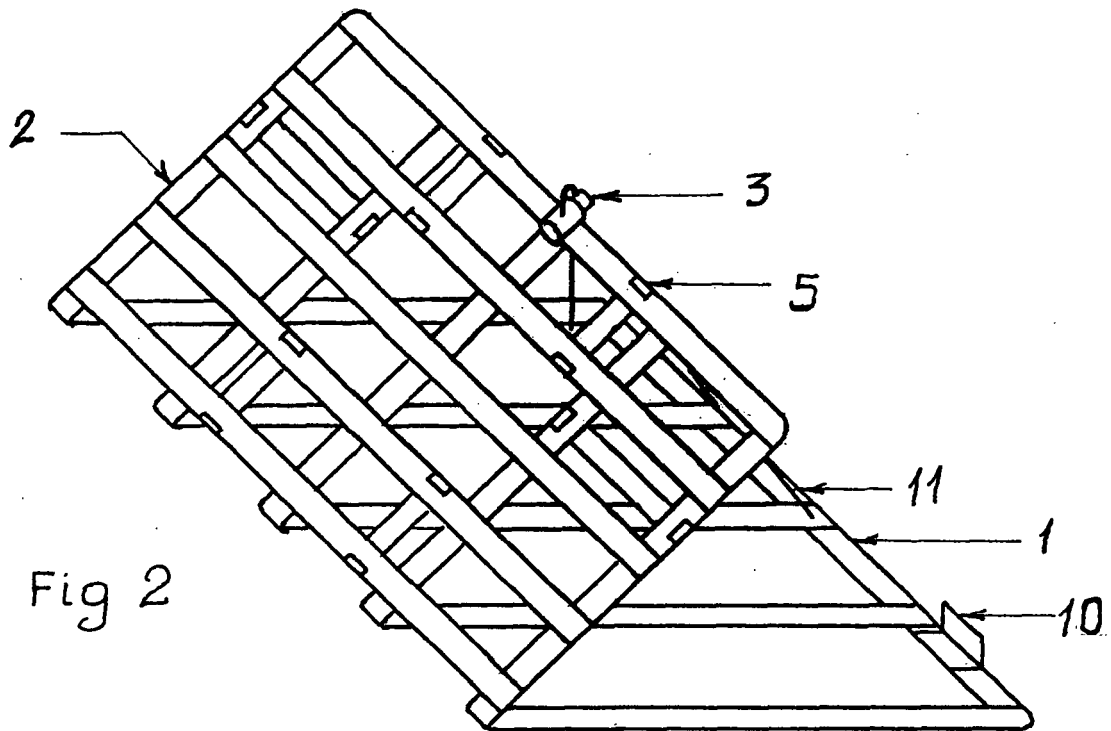


Fig 3

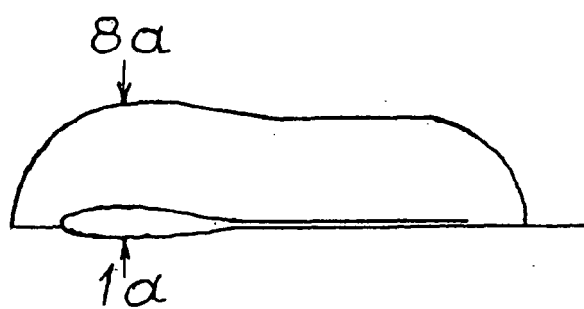
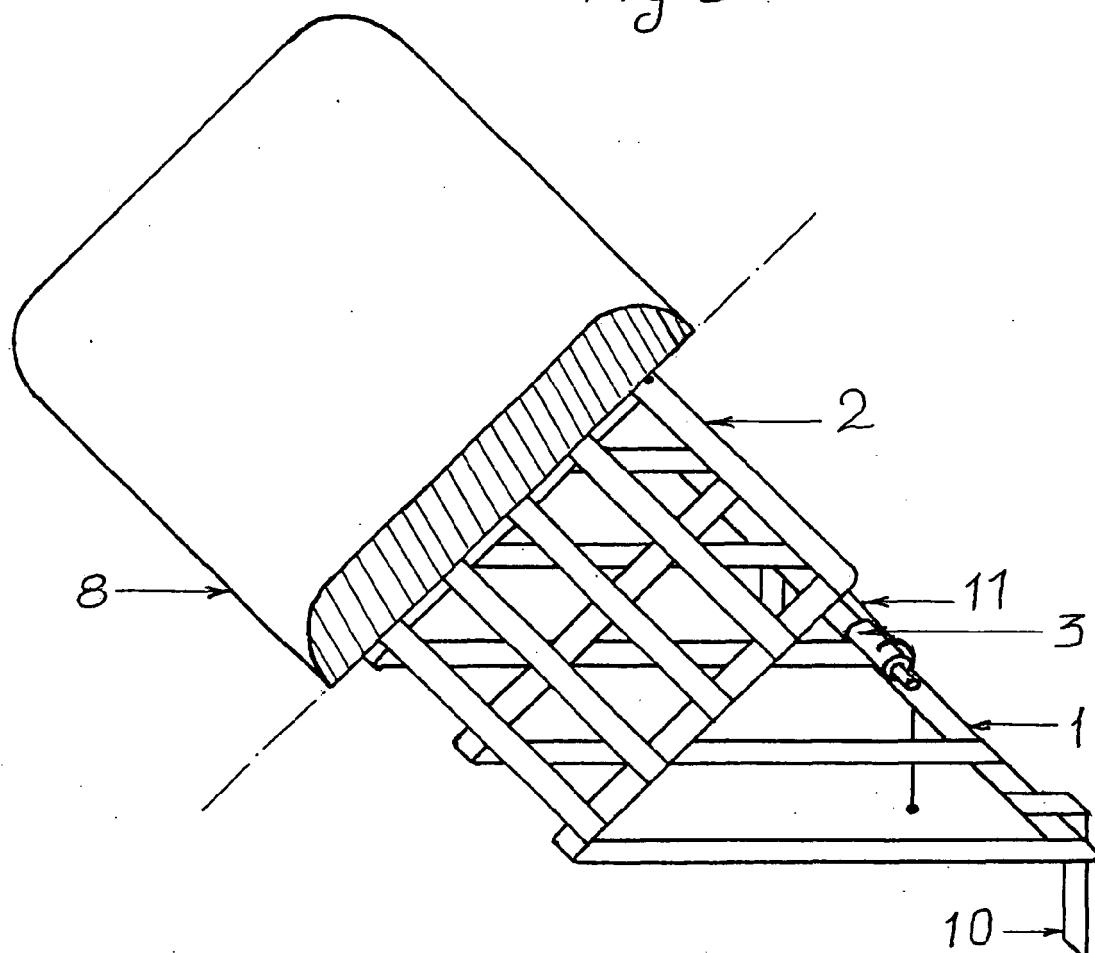


Fig 3a

Fig 4

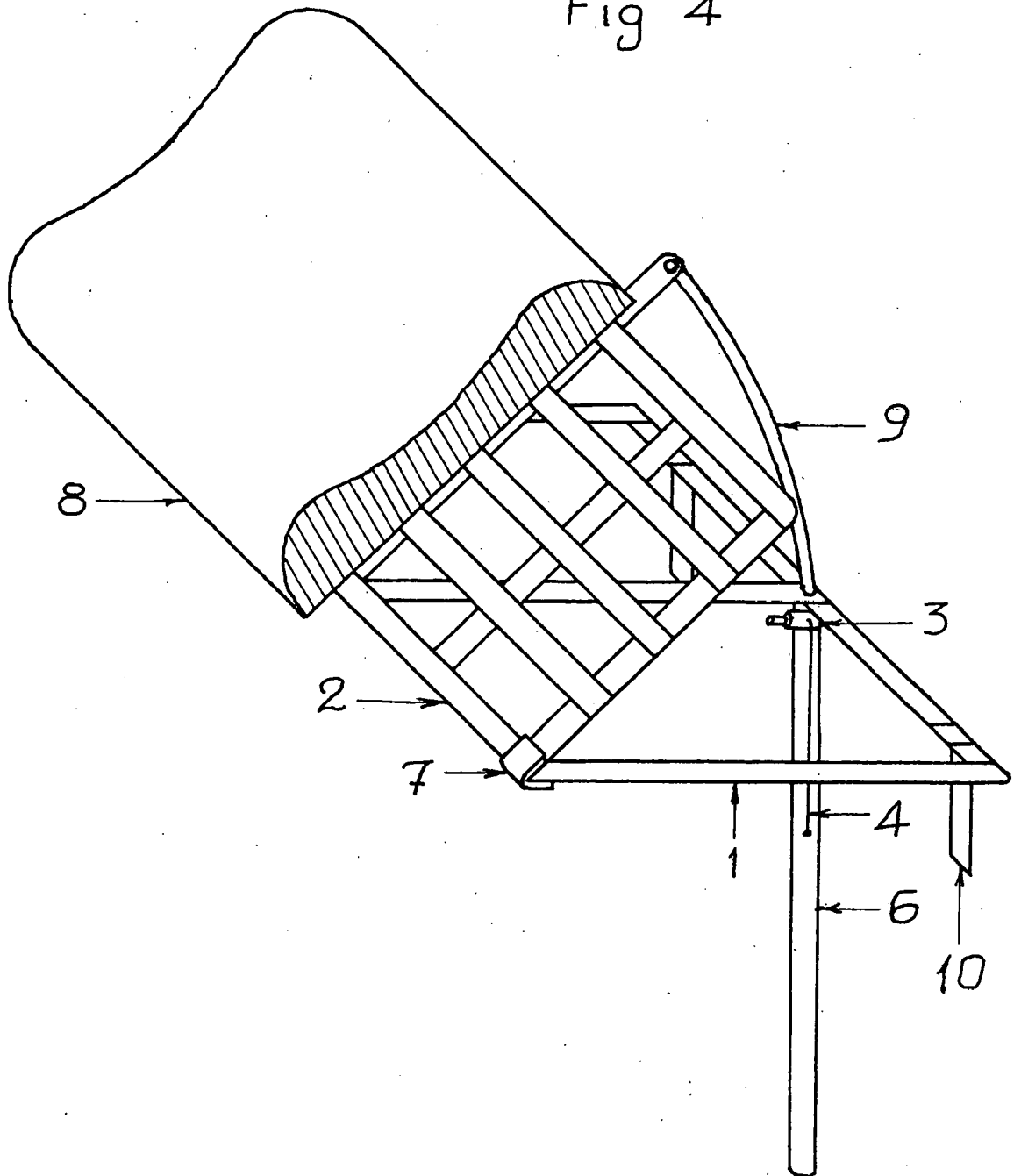


Fig 4a

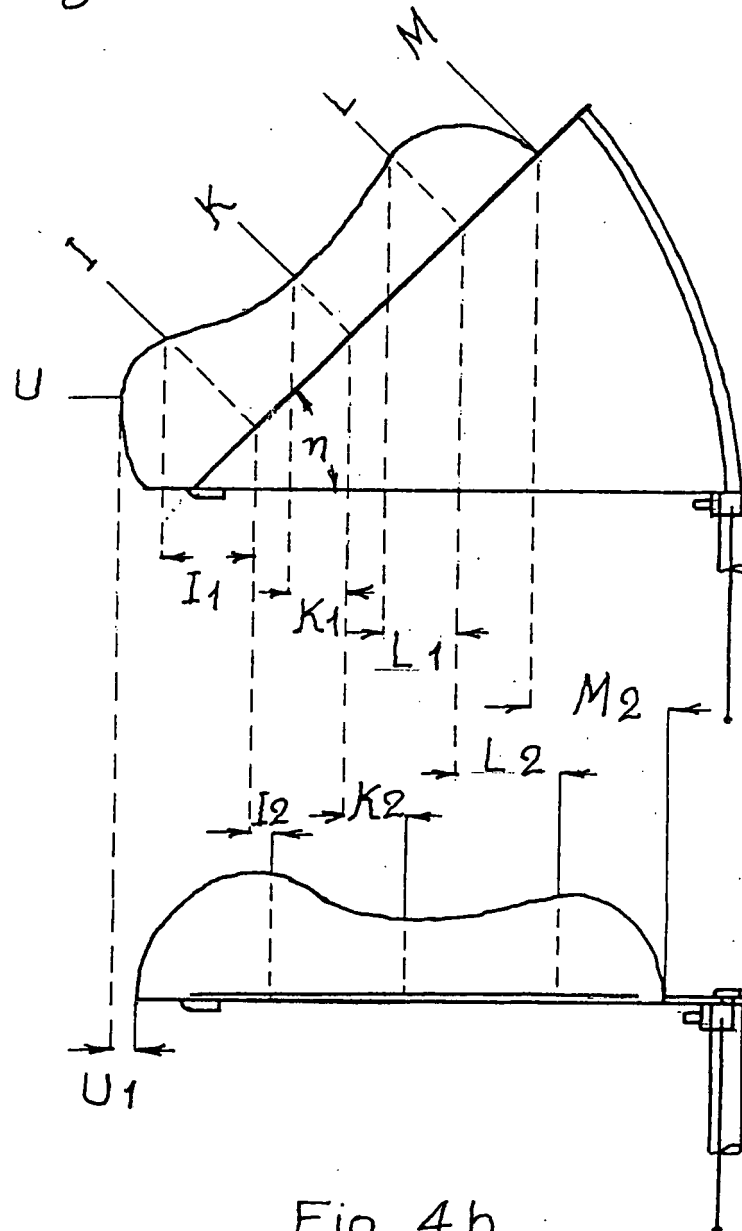


Fig 4b

**PARTIAL EUROPEAN SEARCH REPORT**

Application Number

which under Rule 63 of the European Patent Convention EP 09 00 2918 shall be considered, for the purposes of subsequent proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 0 819 415 A (BINAGHI GIOVANNI [IT]; BINAGHI LUIGI FEDERICO [IT]) 21 January 1998 (1998-01-21) * column 3, lines 21-23,44,50,51 - column 7, lines 13,14; figures 1-3,8-12,19 *	1	INV. A47C20/04
X	FR 1 377 482 A (ADAP TABLE ETS KOLL L) 6 November 1964 (1964-11-06) * page 2, column 2; figure 3 *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47C
INCOMPLETE SEARCH			
The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims. Claims searched completely : Claims searched incompletely : Claims not searched : Reason for the limitation of the search: see sheet C			
Place of search		Date of completion of the search	Examiner
The Hague		18 August 2009	Longo dit Operti, T
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03 82 (P04E07)

**INCOMPLETE SEARCH
SHEET C**

Application Number

EP 09 00 2918

Claim(s) searched incompletely:

1

Claim(s) not searched:

2-9

Reason for the limitation of the search:

Claims 1-9 are drafted in multiple sentences. The syntax wording makes it impossible to determine the subject-matter for which protection is claimed, because it is impossible to determine the technical features. According to rule 43(1) EPC, the definition for which protection is sought shall be in terms of the technical features of the invention. Claims 1-9, however, mainly contain statements relating to therapeutical advantages for the user and other non technical matters. For example is the expression of claim 1 lines 10-11 "consisting of a movement mechanism which has an accumulating tendency to rise" linked to the claimed invention or part of the prior art ? What is to be understood by accumulating tendency ?

As it was not clear what to search, the search was carried out considering the first embodiment as disclosed in the description from page 18 line 19 to page 19 line 8.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 09 00 2918

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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18-08-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0819415 A	21-01-1998	IT MI961464 A1 US 5937459 A	15-01-1998 17-08-1999
FR 1377482 A	06-11-1964	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82