March 6, 1973 C. D. HANES 3,719,185

ORTHOPEDIC BOLSTER PILLOW

Filed Nov. 30, 1970

FIG. 2

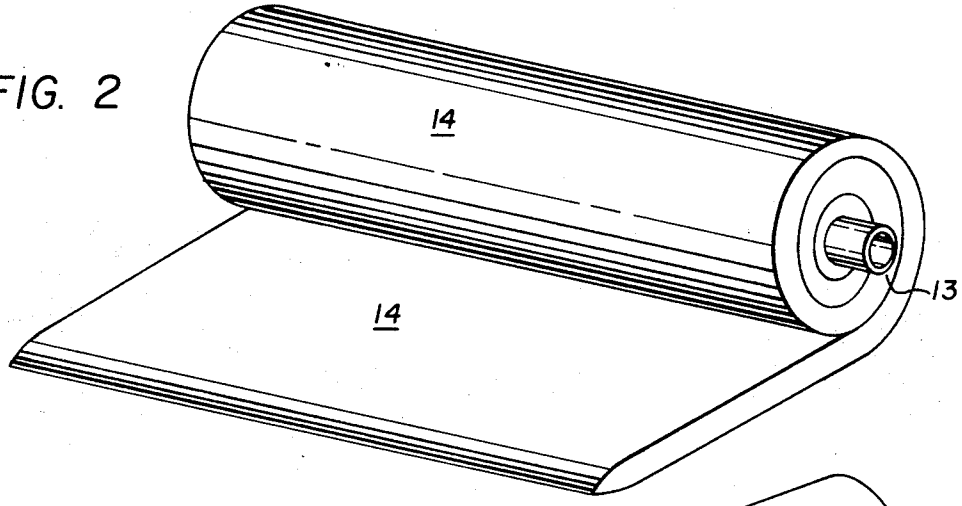
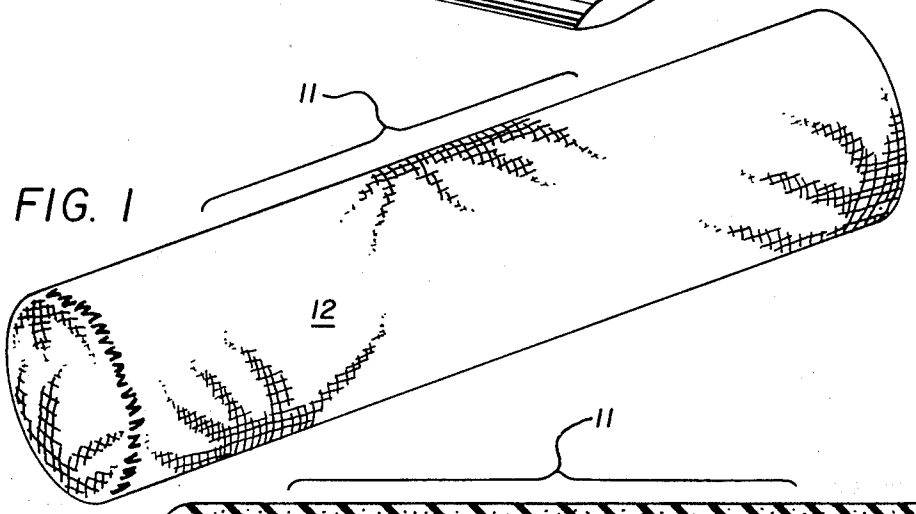



FIG. 1



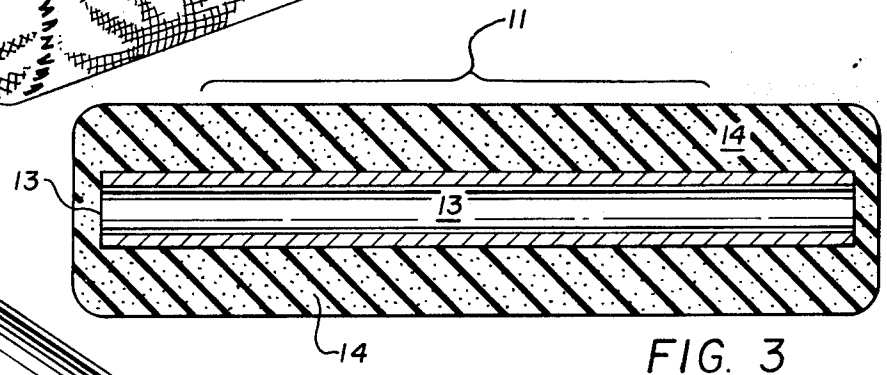




FIG. 3

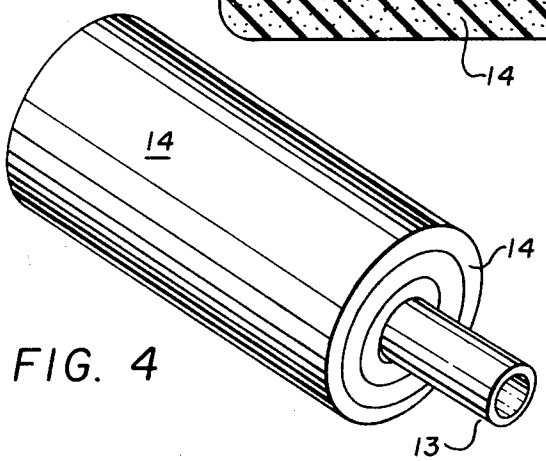



FIG. 4

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United States Patent Office 3,719,185 Patented Mar. 6, 1973



3,719,185

# ORTHOPEDIC BOLSTER PILLOW

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Filed Nov. 30, 1970, Ser. No. 93,657
Int. Cl. A61f 5/00
U.S. Cl. 128—69 3 Claims


## ABSTRACT OF THE DISCLOSURE

A small cylindrical-shaped bolster type pillow provided with a semi-flexible tubular core surrounded by a layer of padding material and an outer cover end proportion to supply pressure and support to the atlas vertebra when laid parallel to the neck of a person sleeping on one side with said pillow of such length as to extend roughly from the shoulder to a position just behind the ear of the user.


## SUBJECT MATTER OF THE INVENTION

This invention relates generally to orthopedic support pillows and more specifically relates to cylindrical bolster-type pillows adapted to provide support to the atlas vertebra in the neck.

## OBJECTS OF THE INVENTION

A number of varieties of headaches and neurological disorders that extend intermittently throughout life start with a dislocated atlas vertebra in the neck which may be caused by accidental blows to the head or neck or injuries sustained in football or related athletic activities or even habitual sleeping in an awkward position that repeatedly applies strain to the neck. The most common symptom manifests itself in early morning headaches and associated disorders in the shoulders, neck and head; however pinched nerves resulting from a dislocated atlas may cause quite an extensive variety of neurological disorders. These symptoms are often retriggered and aggravated by the patient sleeping on one side with his head and neck inadequately or incorrectly supported. It is therefore a primary object of this invention to provide an appropriate therapeutic pillow designed to apply corrective pressure and support to said atlas vertebra while the patient is sleeping on his side in such manner as to assist in driving said vertebra back into its proper position.

Another object of the invention is to facilitate more comfortable and restful sleep by alleviating one of the common sources of neck strain.

A further object of the invention is to provide a cylindrical orthopedic neck support pillow of such simplicity of design that it may be prefabricated in a range of appropriate sizes and lengths so that a correctly proportioned pillow may be selected and fitted to the patient in much the same manner that shoes are selected to fit the feet of a customer.

Still another object of the invention is to provide the patient with a corrective therapeutic pillow that can be used at home to provide corrective therapy with minimum supervision from a physician.

A still further object of the invention is to provide a therapeutic pillow design of such simplicity that it can be inexpensively and easily mass fabricated to permit widespread use of the device.

These and other objects and advantages of this invention will become apparent through consideration of the following description and appended claims in conjunction with the attached drawings in which:

## DESCRIPTION OF THE SEVERAL VIEWS IN THE DRAWINGS

FIG. 1 is a perspective view of the exterior appearance of the therapeutic pillow contemplated by this invention.



FIG. 2 is a perspective view of a partially fabricated therapeutic pillow constructed in accordance with the concepts of this invention.

FIG. 3 is a cross section view of said therapeutic pillow showing how the pillow is formed around a semi-flexible tubular core.

FIG. 4 is a partially cut away perspective view of an incomplete pillow to illustrate the manner in which the pillow padding is wound onto the hollow core tube in the process of fabricating said therapeutic pillow.

In describing one selected form or preferred embodiment of this invention as shown in the drawings and described in this specification, specific terms and components are used for clarity. However, it is not intended to limit the claimed invention to the specific form, components or construction shown and it is to be understood that the specific terms used in this illustration of the invention are intended to include all technical equivalents which operate in a similar manner to accomplish a similar purpose.

## DETAILED DESCRIPTION OF PREFERRED EMBODIMENT OF INVENTION

Referring to the specific embodiment of the invention selected for illustration in the accompanying drawings, the number **11** in FIG. 1 refers to the overall or completed therapeutic pillow contemplated by this invention. As may be noted from the drawings the exterior perimeters of the pillow take the form of a long cylindrical bolster type pillow which may be provided with an appropriate exterior sheathing cover **12** or an appropriate pillow case.

It should be readily apparent that the actual size and length of the completed pillow will have to be tailored or proportioned to the physical proportions of the individual patient for whom the pillow is prescribed and that these requirements will vary from individual to individual. At this time the inventor can only suggest an approximate preferred range of sizes and lengths based upon his limited experience with slightly over a dozen experimental prototypes made for testing by members of the inventor's family and a few of the inventor's patients. The pillow in use should rest against the patient's shoulder at one end and the other end should extend to just behind the patient's ear. This length may be roughly approximated as one and one-half to three times the length of the neck of the person for whom the pillow is prescribed. In practice, so far, the preferred length for said pillow has ranged from six to ten inches in length with a pillow length of eight and one-half inches being the most frequent length required.

Again the size or circumference of therapeutic pillow **11** must be determined by experimentation or by measuring the physical proportions of the patient for whom the pillow is designed. The diameter of said pillow must be just sufficient to support the patient's head and neck, when the patient is lying on one side, at such a level as to bring the vertebra of the neck into substantial alignment with the patient's backbone. This will ordinarily require a pillow having a preferred diameter ranging from two inches to three and one-half inches in diameter. This preferred pillow size has been found to often have an approximate circumference equal to the circumference of the patient's wrist with the most frequently recurring diameter requirement being approximately two and a half inches.

The desirable procedure would appear to be to manufacture a plurality of sizes and lengths of said therapeutic pillow through the range of most frequently needed sizes and then fit the stock pillow to the patient in the same

manner that shoes are fitted to the foot size requirements of a particular customer.

The critical problem arises in connection with selection of the center core employed to provide stiffness and resilience for the pillow. If a wooden dowel or solid rigid core is used the device proves so uncomfortable that the patient discards it in his sleep. The core and pillow together should under applied strain flex very slightly without being able to bend to the point of folding or breaking. Thus the inventor has preferred to fabricate his therapeutic pillows around a barely flexible length of hollow tubular material employed as a core **13**. In the shorter length pillows tubular core **13** has been satisfactorily fashioned from three-quarter inch and one inch diameter plastic tubing cut from fairly rigid plastic garden hose. In some instances longer pillows for large and heavy male patients have been fabricated around lengths of core tubing cut from a brand of the new flexible plastic plumbing pipe. These materials sufficed in the home made prototypes devised by the inventor to test the effectiveness of said therapeutic pillow but a manufacturer fabricating the pillow in commercial quantities can probably secure a reinforced tubing or a custom made plastic tubing better tailored to the functional requirements of the device.

Said tubular core **13** is then covered with a plurality of layers of padding **14** material, such as sponge rubber or plastic foam, tightly spiral wound around said core **13** to provide the desired diameter or size, to add resilient strength to the stiffness of the core and to provide a very slight amount of padding for the comfort of the patient using the device. Said padding material should be of sufficient width to fold over and cover the ends of core **13** as illustrated in FIG. 3.

The techniques of binding spiral wrapped padding **14** into position and sewing the pillow into a suitable sheathing or covering **12** are well known in the upholstery art and will not be repeated here. In addition to a suitable sewed into place sheathing or covering **12** the manufacturer may well want to supply an additional separate tubular shaped removable pillow case that can be removed for intermittent laundering but the tailoring and manufacturing of suitable pillow cases is also a part of the established art and said covering or pillow case is not claimed as a unique part of this invention.

## OPERATION

In application or usage, the patient takes the pillow to bed with him when retiring and when the patient decides to rest or sleep on one side he places said therapeutic pillow in position under his head and neck to provide the required supplemental support. If the patient's atlas vertebra is misaligned or shifted out toward the left and the patient wants to sleep on his left side, he lays the pillow under and almost parallel to his neck so that one end of the pillow rests on the fore-top part of the patient's shoulder and the other end of the pillow lies just behind the patient's left ear. In this position the pillow will apply pressure to the misaligned vertebra and help drive it back into position.

If this patient with the leftwardly displaced atlas vertebra decides to sleep on his right side he shifts the therapeutic pillow in the process of turning over but this time he places the pillow under the right side of his face so that his head and his shoulder are supported but the unsupported neck in between the supports sags slightly thus tending to pull the atlas vertebra from the opposite side of the neck back into proper alignment. This described procedure would be reversed, however, if the patient's atlas vertebra was misaligned to the right.



## ADVANTAGES OF THE INVENTION

A principal advantage of this invention is that it provides a therapeutic pillow designed to apply corrective pressure and support to said atlas vertebra while the patient is sleeping on his side in such manner as to assist in driving said vertebra back into its proper position.

Another advantage of the invention is that it facilitates more comfortable and restful sleep by alleviating one of the common sources of neck strain.

A further advantage of the invention is that it provides a cylindrical orthopedic neck support pillow of such simplicity of design that it may be prefabricated in a range of appropriate sizes and lengths so that a correctly proportioned pillow may be selected and fitted to the patient in much the same manner that shoes are selected to fit the feet of a customer.

Still another advantage of the invention is that it provides the patient with a corrective therapeutic pillow that can be used at home to provide corrective therapy with minimum supervision from a physician.

A still further advantage of the invention is that it provides a therapeutic pillow design of such simplicity that it can be inexpensively and easily mass fabricated to permit widespread use of the device.

Although this specification describes but a single embodiment of the invention with certain applications thereof, it should be understood that structural or material rearrangements of adequate or equivalent parts, substitutions of equivalent functional elements and other modifications in structure can be made and other applications devised without departing from the spirit and scope of my invention. I therefore desire that the description and drawings herein be regarded as only an illustration of my invention and that the invention be regarded as limited only as set forth in the following claims, or as required by the prior art.

Having thus described my invention, I claim:

1. An orthopedic pillow for aligning and supporting displaced atlas vertebra in the neck comprising:
   (A) a length of core stiffening material fabricated from a barely flexible tubular material;
   (B) a plurality of layers of padding material spiral wrapped tightly around the tubular core with sufficient length to cover the ends of said tubular core; and
   (C) a suitable protective covering to create a cylindrical orthopedic pillow.

2. The cylindrical orthopedic pillow described in claim **1** having an overall length approximately equal to one and one-half to three times the length of the neck of the patient for whom the pillow is fabricated.

3. The cylindrical orthopedic pillow described in claim **1** having a circumference approximately equal to the circumference of the wrist of the patient for whom the pillow is fabricated.


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L. W. TRAPP, Primary Examiner

U.S. Cl. X.R.

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