

1

3,298,044

INFLATABLE PILLOW

Norman H. Saltness and Mary H. Saltness, Falls Church, Va., assignors to Bli Incorporated, Falls Church, Va., a corporation of Virginia

Filed Sept. 14, 1964, Ser. No. 396,112

1 Claim. (Cl. 5—338)

This invention relates to pillows, cushions, mattresses, or articles of a similar nature which provide support for the body when sitting or reclining, and more particularly to articles of this type which are capable of providing a soft, yieldable support of relatively large thickness when desired, but which will require only a small fraction of space for storage.

One object of the invention is to provide a pillow, or the like, of generally rectangular shape which is capable of being expanded in thickness for use, but may be collapsed substantially flat when not needed.

Another object of the invention is to provide an inflatable pillow, or the like, which may be completely deflated for packing or storage, and is capable of inflation in varying degrees in accordance with the use to which the article is to be put.

Still another object of the invention is the provision of an inflatable bladder means capable of expansion and constriction in thickness without changing its overall dimensions in width and length.

Still another object of the invention is to provide a novel blank capable of being fabricated into an inflatable bladder of generally rectangular configuration, but which will retain its rectangular configuration regardless of the extent of inflation.

Other objects and advantages will be apparent to those skilled in the art after reading the following specification in connection with the annexed drawings in which: FIG. 1 is a plan view of a preferred form of inflatable pillow constructed in accordance with the teachings of this invention; FIG. 2 is a cross-section in elevation taken on the line 2—2 of FIG. 1; and FIG. 3 is a horizontal cross-section of the internal bladder taken on the line 3—3 of FIG. 2.

Referring now to the drawings in detail, the numeral 10 indicates a generally rectangular outer covering constructed of some relatively thick yieldable material such as foamed rubber while the numeral 11 indicates generally an internal inflatable bladder means contained within the outer covering.

Various methods may be employed in forming the outer covering. In one instance two rectangular sheets of foamed rubber 12 and 13 can be cut to the same size and then joined along three of their common margins 14, 15 and 16 either by heat sealing or by an adhesive leaving the remaining margin 17 open for the insertion of the bladder 17.

The bladder 17 is composed of two substantially identical inflatable elements, each of which is fabricated from a relatively thin flexible and substantially inextensible or nonstretchable sheet material, preferably a synthetic plastic which is impervious to air. In a preferred method of fabrication two rectangular sheets of the plastic material 18 and 19 of the same size, and slightly smaller in the width and length than the interior dimensions of the cover 10, are first joined together in superposed relation by means of adhesive or heat sealing along a narrow area

2

in the center and extending lengthwise to within a short distance of each end of the sheet, as indicated by the numeral 20 in FIG. 3. The next step is to take two more sheets of plastic 21 and 22 of the same dimension of the sheets 18 and 19 and in each of these sheets to insert the air valves 23 and 24 respectively. These valves may be of the type well known for inflating and deflating toys or other buoyant articles used in swimming. After the valves have been attached, the sheet 21 is secured to the sheet 18 along the entire length of their four margins, either by adhesive or heat sealing or other suitable means which will insure an airtight joint. The sheet 22 is also similarly joined with sheet 19 resulting in the formation of two separate inflatable bags 25 and 26 joined to each other only by the narrow area of adhesion 20. It will thus be seen that while either, or both, of the inflatable bags may be inflated in a vertical direction to any desired extent they must always remain in superposed alignment regardless of the extent of inflation and cannot shift or twist out of alignment with each other.

After the bladder 11 has thus been fabricated it is inserted within the cover 10 and the valves 23 and 24 are made accessible through suitable openings provided in the cover sheets 12 and 13. Preferably, the stems of the valves should be of such length that they do not project outwardly from the exterior surface of the cover and they should be located as close to the end of the pillow as is conveniently possible so they will not normally come in contact with the user's head.

Obviously, the outer covering and each of the inner bags could be formed from a single piece of material, doubled over along one of the margins, instead of using two separate sheets. Furthermore, while separate valves have been shown for each of the inflatable bags, it would be possible to provide an opening between the two bags at the center to permit air to pass between them, or a common air conduit for both bags could be used, to eliminate one of the valves.

The bladder can easily be inflated to any desired size by lung pressure alone. If a thin pillow is wanted, only one of the bags need be inflated, whereas if the pillow is to be used to support an injured leg, or other portion of the body, both bags would be fully inflated. In any event, regardless of the extent of inflation, the pillow will always retain its generally rectangular form in horizontal plan while remaining generally oblate in vertical cross-section both in length and in width.

A particular advantage of this invention is that, when not in use, it can be deflated flat so that it occupies comparatively little space. This is especially advantageous for hospitals, or other institutions having need for large numbers of pillows in an emergency. Perhaps ten or fifteen pillows constructed in accordance with the teachings of this invention can be stored in the space required by a conventional pillow.

Obviously, while the pillow described above could be used without additional covering, for reasons of cleanliness and appearance, it is preferable to provide a clear plastic covering, or to employ a cloth pillowcase, as with ordinary pillows.

Having described one form in which the invention may be practiced, it will be understood that various changes and improvements may be made by those skilled in the art which would come within the scope of the annexed claims.

We claim:

An adjustable pillow comprising a pair of rectangular sheets of flexible, soft, extensible material of substantial thickness, joined to each other along at least three margins, an inflatable bladder contained between said pair of sheets comprising four rectangular superposed sheets of thin, flexible, inextensible, air-impervious material, the first and second of the thin sheets being joined to each other along all four margins, the third and fourth of the thin sheets being joined to each other along all four margins to form a pair of superposed air-tight inflatable bodies, the second and third sheets of the thin material being joined to each other along a narrow central area

to prevent relative displacement of the inflatable bodies, and valve means for each of said bodies.

References Cited by the Examiner

UNITED STATES PATENTS

- | | | | | | |
|-----------|---------|--------|-------|-------|---|
| 2,682,918 | 7/1954 | Porter | ----- | 5-337 | X |
| 2,691,179 | 10/1954 | Kann | ----- | 5-348 | |
| 3,148,389 | 9/1964 | Lustig | ----- | 5-337 | |
- 10 FRANK B. SHERRY, *Primary Examiner*.
A. M. CALVERT, *Assistant Examiner*.