United States Patent [19]

Golden

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[45] **Apr. 3, 1973**

[54] **WATERBED BEDSTEAD**

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[52] **U.S. Cl.**.....**5/348 WB,** 4/177
[51] **Int. Cl.**.....**A47c 27/08**
[58] **Field of Search** ...5/348, 348 WB; 4/177, 172.19

[56] **References Cited**

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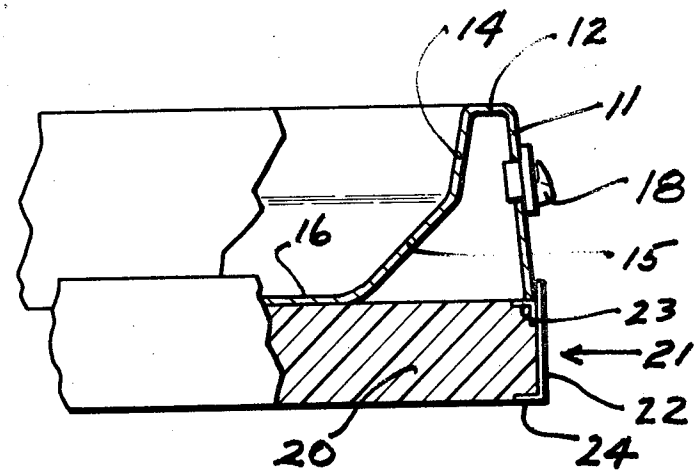
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Primary Examiner—Francis K. Zugel
Assistant Examiner—Andrew M. Calvert
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[57] **ABSTRACT**

The waterbed bedstead in its preferred form is essentially a containment tank to hold a plastic bag containing water, or water and other materials, to produce a water mattress. The containment tank section is formed of a thermoplastic material which is leak proof, should the water mattress be punctured, cut or for any other reason fail to contain the liquid. It also supplies a dead air space for thermal insulation. The containment tank section preferably rests on a base section containing a polystyrene foam member which not only supports the weight of the water mattress but distributes the weight over a large area. The base section also gives full peripheral support to the tank section.

3 Claims, 6 Drawing Figures



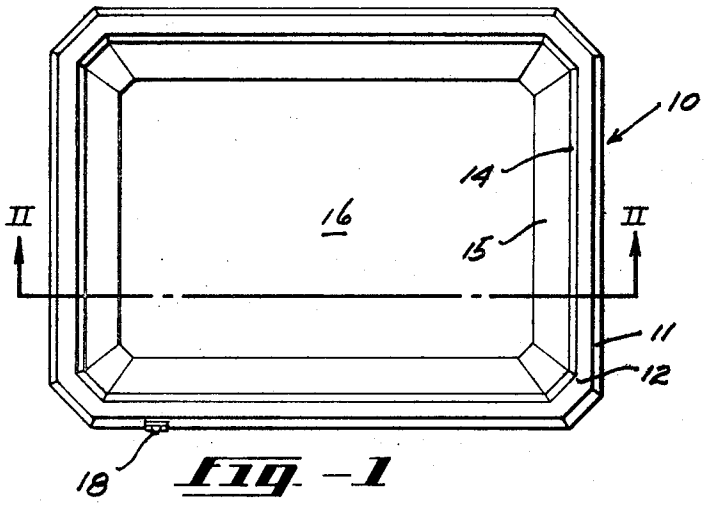


fig. - 1

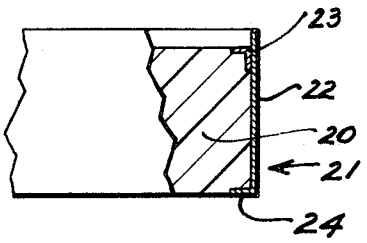


fig. - 4

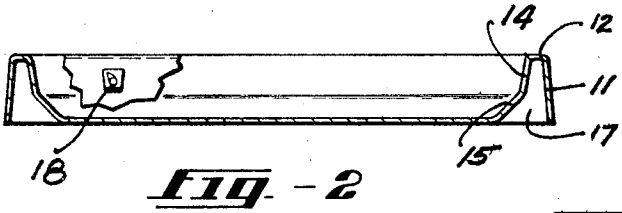


fig. - 2

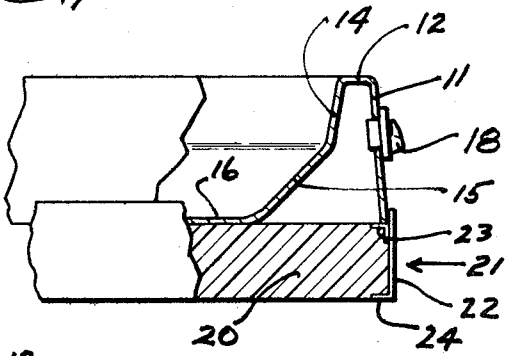


fig. - 5

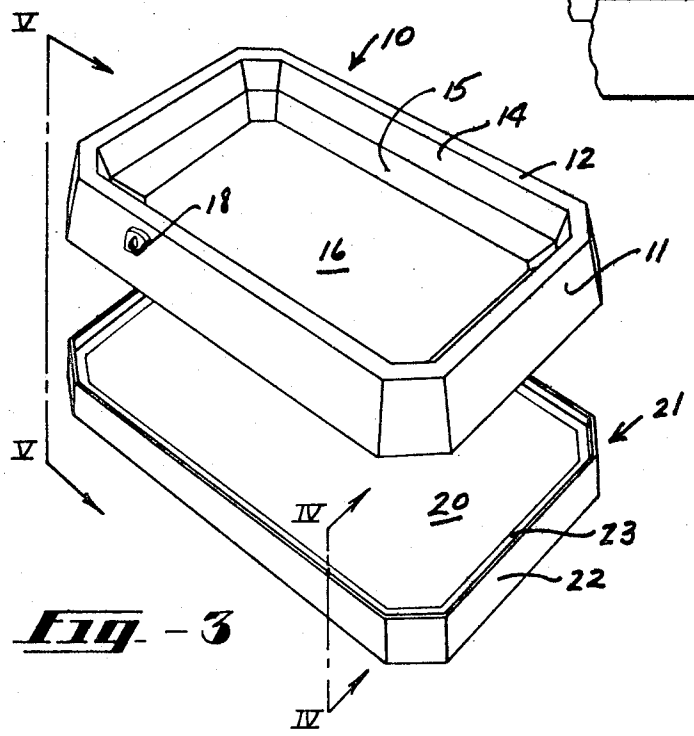


fig. - 3

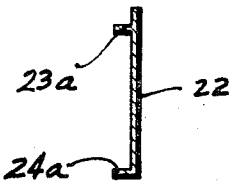


fig. - 6

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WATERBED BEDSTEAD

BACKGROUND OF THE INVENTION

The field of waterbeds has struck the imagination of the purchasing public and the benefits are so exemplary that the detrimental features were either played down or overlooked. However, the derrogatory features cannot be overlooked, except momentarily, and for successful commercialization providing the public with the benefits of the waterbed, these shortcomings must be faced and overcome.

So far as is known, there is no prior art which teaches the elimination of these disadvantages. Not the least of these disadvantages is the great weight of the water which is used in the waterbed envelopes or mattresses. The weight of the water is much more than the weight of the ordinary bedstead, with the result that in some instances this additional weight either cannot be supported by the under structure of the living unit, or it is a great strain upon it to the extent of being dangerous. Furthermore, if there is any puncture of the waterbed envelope there is nothing to hold the liquid from flooding the area and even causing damage in any floors below.

Controlling the temperature of the water in the waterbed has been a considerable problem because of the danger of water reaching the electrical system and causing electrocution.

The summary of the invention is given in the Abstract and the device is calculated to eliminate the present disadvantages of the waterbed.

Further objects are to provide a construction of maximum simplicity, economy and ease of assembly and disassembly, also such further objects, advantages and capabilities as will fully appear and as are inherently possessed by the device and invention described herein.

The invention further resides in the combination, construction and arrangement of parts illustrated in the accompanying drawings, and while there is shown therein a preferred embodiment thereof, it is to be understood that the same is illustrative of the invention and that the invention is capable of modification and change and comprehends other details of construction without departing from the spirit thereof or the scope of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view of the containment tank portion;

FIG. 2 is a side sectional view of the containment tank portion taken on the line II — II of FIG. 1 with a portion in elevation to show the thermostat;

FIG. 3 is an expanded perspective showing the containment tank portion above and the base portion below;

FIG. 4 is a side elevational view partly in section taken on the line IV — IV of FIG. 3;

FIG. 5 is a fragmentary elevational view partly in section, of the assembled unit taken on the line V — V of FIG. 3; and

FIG. 6 is a vertical sectional view of the wall at the base section showing as a variant form, the upper flange integral with the side wall.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring now to the drawings in which like reference numerals refer to similar parts in the several figures, in FIG. 1 there is shown a top plan view of the containment tank which is generally designated **10**. This is preferably formed of a single sheet of rigid thermoplastic sheet stock, vacumm formed to produce a water tight, leak proof tank of substantially uniform wall thickness throughout its entire area. The tank portion **10** is formed to have an outer wall **11** which slopes inwardly upward from its outer base to a relatively flat horizontal run **12**, thence inwardly downwardly for a shorter distance **14**, and then preferably continues at a less steep angle **15** to the bottom **16**. All this is formed as a unitary structure so that there are no possibilities of leaks. The angles **14** and **15** are calculated to accomodate the waterbed envelopes (not shown) which are in existence at the present time, and which seem likely to be developed in the next future. It will be observed that the containment tank **10** has a capacity sufficient to retain the water in the event the water bag or mattress is punctured. As will be seen from FIGS. **1** and **2**, the weight of the waterbed envelope as filled for use (not shown) is directed to the reduced area of the bottom **16**, which is a smaller area than the full dimensions of the bedstead itself.

The peripheral walls of the containment tank **10** provide an air space **17** between the outer wall **11** and the inner wall portions **14** and **15**. This unexpectedly produces two major advantages. The first is that it provides an air space for a thermal insulating medium so that outer temperatures do not affect the temperature of the water in the waterbed envelope and vice versa. The second is that it provides a convenient area to separate the electrical controls **18** for controlling the waterbed temperatures from any possible connection or contact with the water thus making it safe and subject to approval by the Underwriters' Laboratory.

The second portion of the bedstead is the base section **20**. This is a block of substantially rigid polystyrene foam. It is rugged and durable and has a high dielectric which makes it safe for encasing or attaching electrical heating means for the bed (not shown). The optimum polystyrene block has a compressed strength of 17,000 pounds per square foot but is very light in weight and has excellent heat insulating qualities and practically no water absorption. The size of the block **20** is in conformity with the shape of the containment tank and the bottom **16** of the containment tank **10** rests on the top surface of this block or any heating means which may be placed at the top of block **20**.

Since polystyrene foam may flake, it is desirable to surround it with a frame generally designated **21**. The frame **21** consists of a vertical wall **22** which is slightly higher than the top surface of the polystyrene block **20** so that it extends a short distance above the top of said block. The shape of the frame **21** conforms with that of the containment tank **10** and generally the inner wall of the frame is of the same dimension and shape as the outer wall **11** of the containment tank **10**. An upper bracket **23** which extends a flange inwardly from the frame **22** contains the polystyrene block **20** along its marginal edge and an inturned flange **24** contains the block **20** at its marginal edge at the bottom. Thus the

polystyrene block **20** and the frame **21** form a unitary structure when finally assembled.

The flanges **23** and **24** may be formed integrally with the vertical wall **22** as shown in FIG. **6** as **23***a* and **24***a*. The outer wall **11** of the containment tank fits within and is supported by the ledge formed by the upper surface of flange **23** and the inner surface of the frame **22** so that regardless of the weight placed upon the waterbed the containment tank will always maintain its shape and altitude, fully supported by the base section at the perimeter and by the bottom **16**.

As will be noted from FIG. **5** the area of the bottom **16** of the containment tank **10** when it rests on the polystyrene base **20** deposits the weight in the central portion of the block **20**. Also electric heating can be provided safely by placing an electric blanket between the containment tank bottom **16** and the base block **20** since both are nonconductors of electricity. This structure eliminates any possibility of electrical shocks or short circuiting. Obviously the frame section **21** can be made of any suitable material although it can be matched in plastic to the containment tank **10** as described above.

As stated above, when the containment tank is provided with the filled waterbed envelope the weight thereof will be concentrated on the bottom **16**. Since the bottom **16** is in direct contact with the polystyrene block **20**, this weight is transferred laterally over the increased surface of the block **20** thus reducing the square foot load factor substantially. The bedstead is so light in weight that when equipped with the appropriate water envelope or mattress it may weigh less than the ordinary bed of the same size.

It is not always necessary to employ the frame **21** and the containment tank **10** can be made to rest upon and be supported by the polystyrene block **20** itself.

It will be observed that the bedstead is completely sanitary and can be easily cleaned by washing the surfaces with a chlorine bleach solution or any other suitable disinfectant, which provides a healthful, safe and therapeutically correct bed for all human beings, with or without infirmities. Suitable casters or wheels may be attached to the flange **24** or any extension of it, so that the bedstead may be easily moved for making, cleaning and the like.

Because the containment tank **10** has sufficient capacity to hold the volume of water in the waterbed envelope or mattress, there is no danger of leakage to cause damage to its environment or contact of the water with an electrical current causing shock in any use of the bedstead. These dangers are eliminated. Also, since both the plastic of the containment tank **10** and the polystyrene block **20** are heat insulators, the temperatures of the water as well as room temperatures do not have any appreciable effect, one with the other. The simplicity of this bedstead and its safe use are unusual factors for a waterbed and it is believed that these provide sufficient and highly useful structures to make the use of the waterbeds safe and effective.

The containment tank **10** can be placed directly on the floor or it can be placed on the base section **21** to elevate it to standard bed height.

I claim:

1. A water bedstead comprising a containment tank for receiving the inflated waterbed envelope and capable of holding the volume of water used in the inflation in case of leak or puncture, said containment tank being formed with a spaced double wall at the perimeter thereof, a polystyrene foam base of substantial thickness for supporting the bottom of said containment tank and a frame for said base having an inturned peripheral ledge adjacent the top thereof for supporting the wall of the outer perimeter of said containment tank, and with the portion of the frame above said ledge confining the perimeter said tank.

2. The water bedstead of claim **1** wherein the containment tank is formed from a single sheet of waterproof plastic and the polystyrene base is confined within a peripheral frame between the inturned ledge at the top and the inturned ledge at the bottom.

3. The water bedstead of claim **2** wherein the containment tank, the polystyrene base and the peripheral frame are of uniform shape for ready assembly into a unitary structure.

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