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F. BERGER

2,201,424

WATER BAG

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Fig. 1

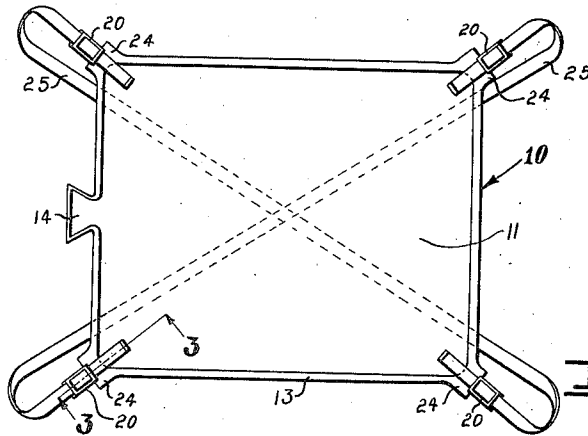


Fig. 2

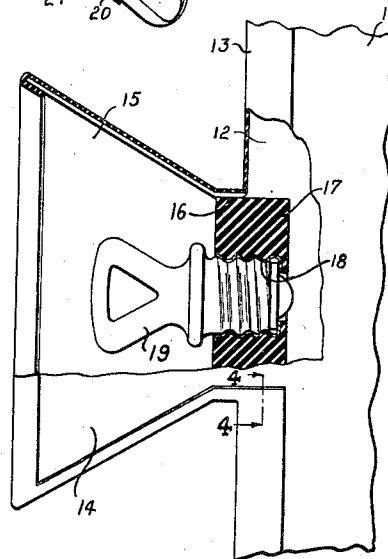


Fig. 3

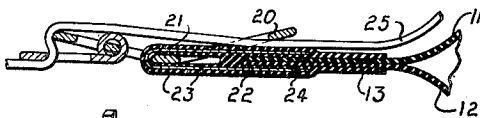


Fig. 5

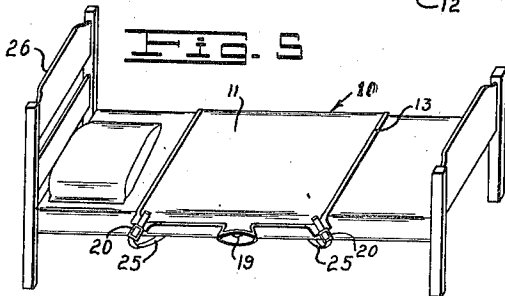


Fig. 6

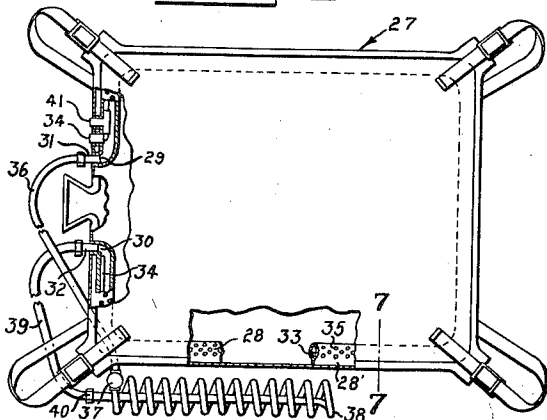


Fig. 7

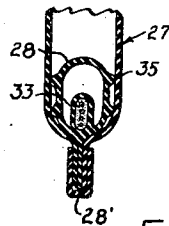
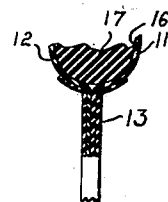


Fig. 4



BY

INVENTOR.
FRITZ BERGER

[Signature]
ATTORNEY.

UNITED STATES PATENT OFFICE

2,201,424

WATER BAG

Fritz Berger, Pasadena, Calif.

Application September 2, 1939, Serial No. 293,215

4 Claims. (Cl. 128—399)

This invention relates to flexible water bag.

The general object of my invention is to provide an improved patient supporting water bag.

Another object of the invention is to provide a water bag including novel means for securing the bag in position on a bed.

Another object of the invention is to provide a water bag including novel heating means.

Another object of the invention is to provide a water bag including novel cooling means.

An additional object of the invention is to provide a water bag including novel heating or cooling means.

Other objects and the advantages of my invention will be apparent from the following description taken in connection with the accompanying drawing, wherein:

Fig. 1 is a top plan view of a water bag embodying the features of my invention;

Fig. 2 is an enlarged fragmentary section of the water bag showing the filling opening;

Fig. 3 is an enlarged fragmentary section taken on line 3—3, Fig. 1;

Fig. 4 is an enlarged fragmentary section taken on line 4—4, Fig. 2;

Fig. 5 is a perspective view of a bed with my water bag attached thereon;

Fig. 6 is a top plan view with parts broken away showing a modified water bag; and

Fig. 7 is an enlarged fragmentary section taken on line 7—7, Fig. 6.

Referring to the drawing by reference characters I have shown my invention as embodied in a water bag indicated generally at 10. As shown the water bag 10 includes a substantially rectangular top and a bottom sheet of waterproof flexible material 11 and 12 such as rubber.

The top and bottom 11 and 12 are preferably of the same size and shape and are aligned with the outer edges joined together by a vulcanized strip of rubber 13 to form a water tight bag.

As shown in Fig. 2 the top and bottom 11 and 12 include projecting portions 14 and 15 which are arranged in frusto-conical form thus providing a funnel-like opening 16 for the water bag. A plug 17 preferably of hard rubber is vulcanized in the opening 16 and is provided with a central aperture 18 threaded to receive a threaded closure member 19.

At each corner the water bag 10 is provided with a buckle 20 having a cross bar 21 arranged within a folded over strip of metal 22 or the like. The strip 22 is covered within and without by a layer 23 of rubber. Beyond the strip 22 the layers 23 are united together and vulcanized

to ears 24 at each corner of the bag. As shown in Fig. 1 the diagonally disposed buckles 20 are connected by adjustable straps 25.

In use the water bag is filled with the proper amount of water and arranged in the desired manner upon a bed 26 (see Fig. 5.) The straps 25 are then brought across beneath the bed and the opposite ends of each strap are secured to the diagonally disposed buckle 20. A sheet is then placed on the water bag and the apparatus is then ready for use.

The bag will prevent "decubitus" or bed sores and provide the patient with a bed which will conform more readily to the shape of the body. Thus a smooth, wrinkle proof, comfortable support is provided for the patient.

If desired, hot or cold water may be placed in the bag to suit the requirements of the patient.

In the use of my bag it is frequently desirable to maintain the water within the bag at a certain temperature. To maintain the desired temperature I provide a bag indicated generally at 27. (See Figs. 6 and 7.)

As shown the modified water bag 27 is similar to the water bag 10, previously described, but in addition includes a flexible conduit 28. The conduit 28 includes a flange 28 suitably secured within the edge portion of the water bag 27. The conduit includes an inlet 29 and an outlet 30. The inlet 29 and outlet 30 communicate with couplings 31 and 32 which are preferably vulcanized to the edge of the water bag 27.

A heating element 33 is arranged within the conduit and is connected to an electrical plug connector 34 vulcanized to the edge of the bag. The conduit 28 is preferably provided with a plurality of projecting bosses 35 which are spaced to allow the water within the bag 27 to circulate around the greater part of the conduit 28.

In use the water bag 27 is filled with the proper amount of water and arranged on the bed as previously described. If it is desired to cool the water within the bag to meet the requirements of the patient, the conduit 31 is connected by a flexible hose 36 to a valve 37 which communicates with a refrigerating unit indicated at 38. The conduit 32 which communicates with the outlet 30 is connected by a flexible hose 39 to an inlet coupling 40 of the refrigerating unit 38.

When the valve 37 is opened the brine or cooling substance flows into and through the conduit 28 to thereby cool the water within the bag.

If it is desired to warm the water within the bag 27 the conduit 28 is filled with water and the couplings 31 and 32 closed by suitable closure

members. The electrical plug 34 is connected to a suitable supply of current which heats the water within the conduit 28 and in turn warms the water within the water bag 27. The water
5 may be maintained at a certain temperature by the use of a thermostat 41 fixed in the conduit 28.

Having thus described my invention, I claim:

1. A water bag comprising a flexible receptacle
10 including an opening and a closure therefor, a conduit secured to the inner periphery of said bag including an inlet and an outlet, means to connect said conduit with a refrigerating unit whereby a refrigerant may flow through said
15 conduit, a plurality of projecting spaced lugs on the exterior of said conduit and engaging the top and bottom of the bag.

2. In a water bag a substantially rectangular flexible waterproof top and bottom, said top and
20 bottom being of the same size and aligned, a strip vulcanized to the outer edges of said top and bottom, said bag having a filling opening, a

plug for said opening, an ear at each corner of the bag, each of said ears having a strip of metal secured therein, a buckle engaging each metal strip and a pair of straps engaging the
5 buckles for securing the bag in a desired position on a bed.

3. In a water bag including a body having a filling opening and a closure therefor, a folded over ear at each corner of said bag and vulcanized thereto, a reinforcing strip secured in place
10 by each folded over ear, a buckle engaging each strip and straps engaging said buckles.

4. In a water bag a substantially polygonal flexible waterproof top and bottom, said top and bottom being secured together, said bag having
15 a filling opening, a plug for said opening, an ear at each corner of the bag each of said ears having a reinforcing strip secured therein, a buckle engaging each reinforcing strip and straps engaging the buckles for securing the bag in a
20 desired position on a bed.

FRITZ BERGER.