United States Patent

[11] 3,595,224

[72] Inventor **Gerald L. Walter**
Rte 1, Box 146A, Manistee, Mich. 49660

[21] Appl. No. **738,932**
[22] Filed **June 21, 1968**
[45] Patented **July 27, 1971**

[54] **DEVICE FOR HYDROTHERAPY TREATMENT**
8 Claims, 3 Drawing Figs.

[52] **U.S. Cl.** ..... **128/66,** 4/185 AB
[51] **Int. Cl.** **A61h 9/00**
[50] **Field of Search** 128/66, 369; 4/185

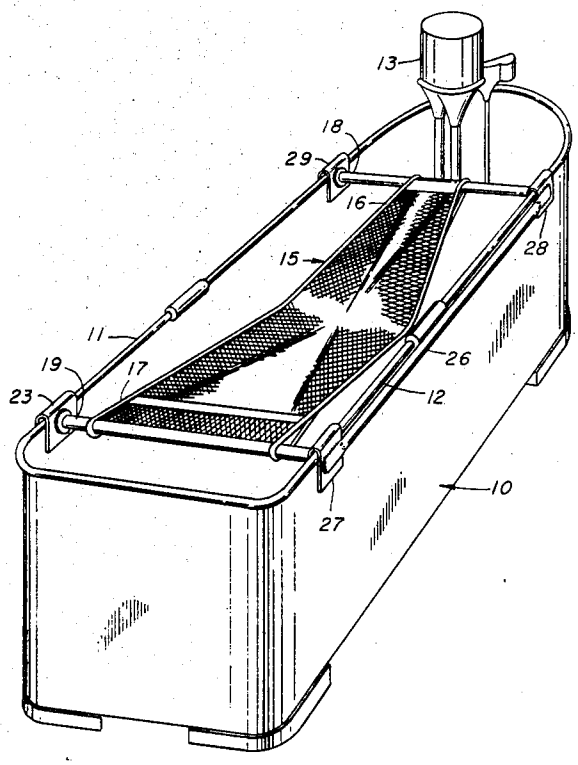
[56] **References Cited**

UNITED STATES PATENTS

22,733	1/1859	Karshner	128/369
1,242,113	10/1917	Rees	4/185
1,450,827	4/1923	Wood	4/185

Primary Examiner—L. W. Trapp
Attorney—Glenn B. Morse

ABSTRACT: A hydrotherapy tank provided with a hammock for suspending a patient within the tank. The hammock is secured to a rack normally resting on the rim of the tub to free the tub of all transverse and longitudinal stresses.



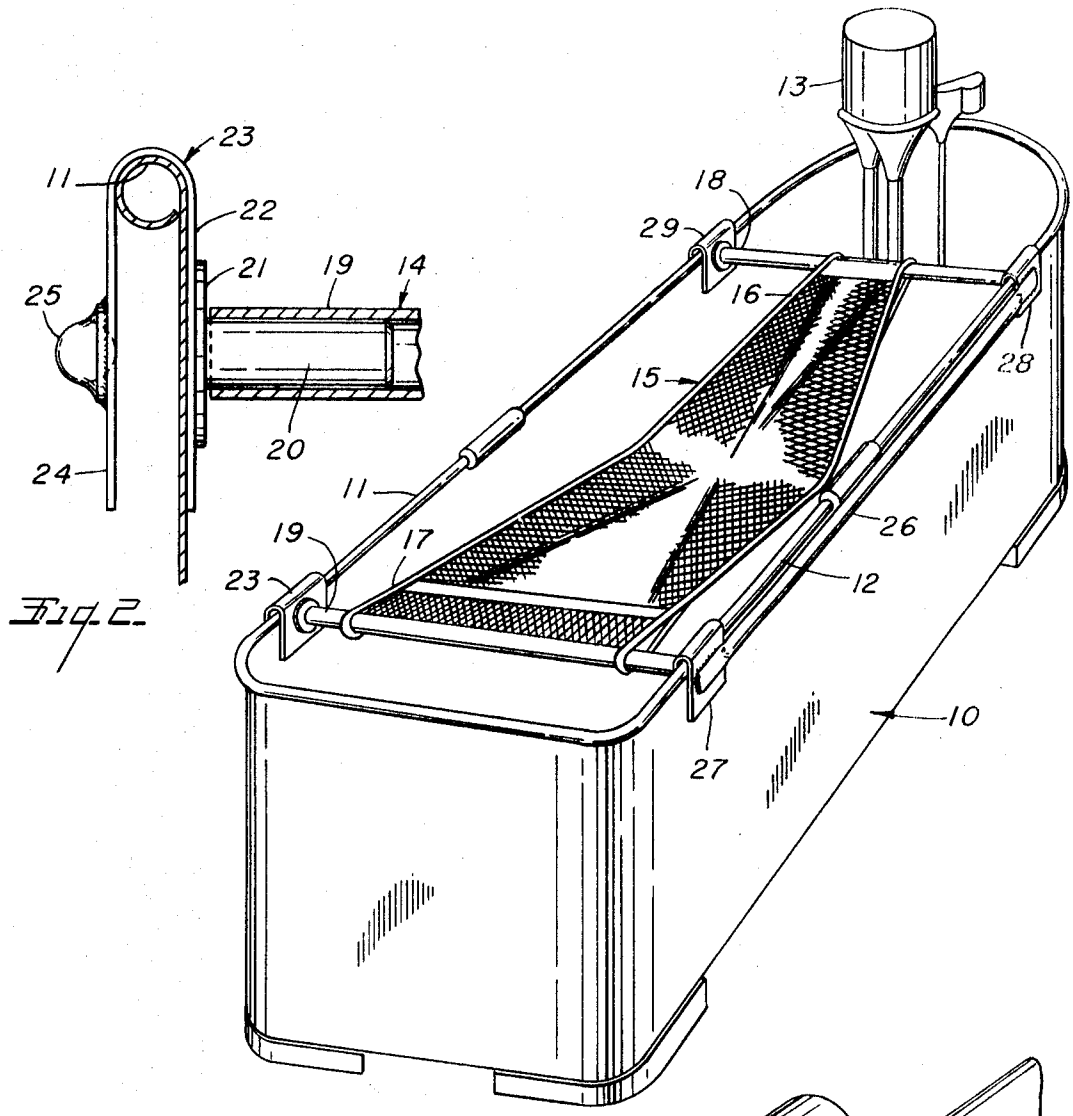


Fig. 1.

Fig. 2.

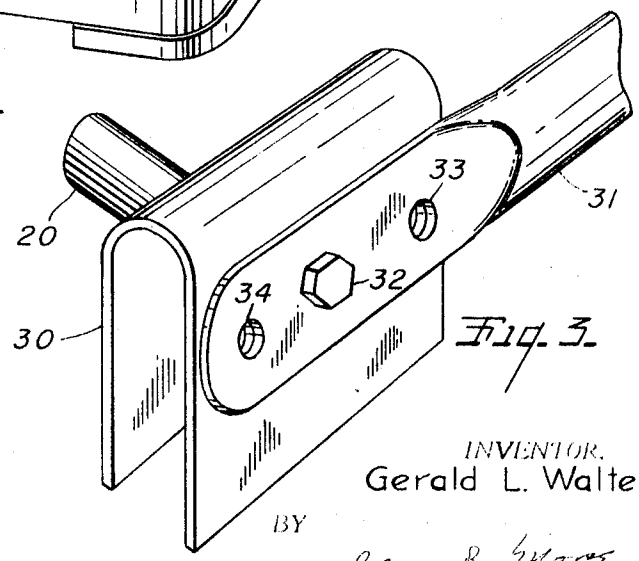


Fig. 3.

INVENTOR.
Gerald L. Walter

BY

Glenn B. Morse

ATTORNEY.

DEVICE FOR HYDROTHERAPY TREATMENT

BACKGROUND OF THE INVENTION

Hydrotherapy is one of the most frequently used procedures in the general class of treatments commonly known as physical therapy. According to the usual practices, all or part of a patient is immersed in a tank of circulating water, with the temperature of the tank being selected for the particular purposes of the treatment. Occasionally, some additives are included in the water for specific purposes. Where it is desirable to treat as much of the patient as possible, the conventional hydrotherapy tank assumes the form of a large bathtub equipped with suitable circulating pumps and supply and drain conduits. In the case of elderly or incapacitated patients, it is sometimes very difficult to place and maintain the position of a patient within the tank, and remove him after the treatment has finished. With the patient wetted over the major portion of his body, it is very hard to handle him without slipping or applying excessive pressures that may aggravate his physical condition. It is also obvious that the area in which the patient is supported on the bottom of the tank, as in a bathtub, is not subject to the rapid circulation of the water on which the principle benefits of the treatment depend.

SUMMARY OF THE INVENTION

The present invention provides for the support of a patient within a standard hydrotherapy tank through the use of a hammock disposed within the tank. Preferably, the hammock is supported on a rack-shaped structure including crossbars and spacing bars, with the entire structure (including the hammock) being vertically removable for not only the convenience in assembling the hammock to the tank, but also for the possible dual sue of the hammock and its supporting rack as a stretcher in carrying a patient to and from the tank.

In the preferred form of the invention, the hammock-supporting rack is defined by a pair of spaced crossbars with end fittings that engage the rim of the tank on opposite sides. These crossbars are maintained in spaced relationship by interconnecting bars. The relationship between the connecting bars and crossbars may be rendered adjustable for determining the spacing between the ends of the hammock so that the degree of slack in the hammock can be altered.

DESCRIPTION OF THE DRAWING

The several features of the invention will be analyzed in detail through a discussion of the particular embodiments illustrated in the accompanying drawing. In the drawing:

FIG. 1 is a perspective view of a standard hydrotherapy tank equipped with the preferred form of the hammock attachment.

FIG. 2 is a sectional elevation on an enlarged scale over that of FIG. 1 showing the structure at one of the corners of the hammock-supporting rack.

FIG. 3 is a perspective view of a modified form of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIG. 1 and 2, the standard hydrotherapy tank generally indicated at **10** has the parallel opposite rim portions **11** and **12**. A standard pump unit **13** is normally provided to maintain a circulation of water or other solution within the tank **10**. A rack structure generally indicated at **14** constitutes an attachment that can be slipped down onto the tank **10** for the support of the hammock **15** within the tank. This hammock is preferably made of open netting, and is substantially narrower at the end **16** than at the opposite end **17** permit the legs of a patient to be disposed on either side of the end **16**. Both of these ends have tubular sections embracing the crossbars **18** and **19**, respectively.

The most convenient and economical structure for the crossbar assembly is shown in FIG. 2. The bar **19** is tubular, and receives the stud **20** having the enlarged head **21** welded to the inside leg **22** of the U-shaped bearing member **23** forming one end of the crossbar assembly. The outer leg **24** is spaced sufficiently from the inner leg to receive the rim of the tank **10**, and these outer legs are interconnected on corresponding sides of the tank by spacing bars **25** and **26**. The function of the spacing bars is to resist the tendency for weight suspended in hammock **15** to draw the bars **18** and **19** together. The telescopic interengagement between the stud **20** and the tube **19** will accommodate considerable variation in width between tanks. This interengagement may be rendered more secure (as when it becomes desirable to use the entire rack in the manner of a stretcher) by a conventional cross pin (not shown) or its equivalent. In either case, the storage of the hammock attachment is considerably facilitated by the disengageability of the tubes **18** and **19** from the end assemblies.

Where the attachment of the spacing bars **25** and **26** is fixed, as shown in FIG. **1**, the suspended position of the patient within the tank is controllable by determining various amounts of slack in the hammock, either through the use of hammocks of varying length, or through some other form of adjustability of the tubular ends of the hammock. The assembly at each of the four corners of the attachment are the same, with the U-shaped members **27—29** being identical to the member **23** shown in FIG. **2**.

It is possible to provide a different form of adjustment for altering the amount of slack in the hammock **15**, and this can be done through the arrangement shown in FIG. **3**. The U-shaped member **30** is provided with a stud similar to the stud **20** shown in FIG. **2**. The spacing bar **31** may be secured to the member **30** by a bolt **32**, which is engageable either in a central hole (as shown in FIG. **3**) or at the holes **33** or **34**. The use of the hole **33** will provide more slack, and the use of the hole **34** will correspondently provide less slack in the hammock. Some form of turnbuckle connection in the spacing bars can also be provided to give this same sort of spacing adjustability. For lightness of weight, it is preferable that the spacing bars be of tubular configuration, flattened at the ends as shown in the drawing to facilitate the attachment to the end portions of the crossbar assemblies. Where there is no concern for the use of the rack **14** as a separable hammock support, the U-shaped members may be clamped or bolted to the walls of the tank.

The particular embodiments of the present invention which have been illustrated and discussed herein are for illustrative purposes only and are not to be considered as a limitation upon the scope of the appended claims. In these claims, it is my intent to claim the entire invention disclosed herein, except as I am limited by the prior art.

I claim:

1. In combination with a hydrotherapy tank having opposite rim portions, an attachment for suspending a patient within said tank, comprising:

a pair of crossbars having bearing members at each end thereof engageable with said rim portions;

means structurally independent of said tank maintaining the spaced relationship of said crossbars on said rim portions; and

a hammock having the opposite ends thereof respectively engaging said crossbars for suspension within said tank.

2. A combination as defined in claim **1**, wherein said means maintaining the spaced relationship of said crossbars is at least one spacing bar interconnecting corresponding end portions thereof.

3. A combination as defined in claim **2**, wherein spacing bars interconnect both corresponding end portions of said crossbars.

4. A combination as defined in claim **3**, wherein said spacing bars are adjustable with respect to said crossbars to vary the spacing thereof.

5. A combination as defined in claim **1**, wherein said bearing members are U-shaped, and adapted to hook over said rim portions, one side of said U-shaped members being engaged with said crossbars, respectively.

6. A combination as defined in claim 5, wherein said one side of the U-shaped member is provided with a stud telescopically engaging the end of said crossbars, respectively.

7. A combination as defined in claim 5, wherein the outer sides of said U-shaped members on corresponding sides of said tank are interconnected by spacing bars.

8. A combination as defined in claim 1, wherein said hammock is substantially wider at one end than at the other.