United States Patent [19]

Tarjan et al.

[11] **3,804,082**

[45] **Apr. 16, 1974**

[54] **RESUSCITATION SUPPORT**

[75] Inventors: **Peter P. Tarjan; Jacob Goldstein; Esperanto J. Simicich,** all of Miami, Fla.

[73] Assignee: **Cordis Corporation,** Miami, Fla.

[22] Filed: **Apr. 26, 1972**

[21] Appl. No.: **247,865**

[52] **U.S. Cl.** **128/67,** 128/28, 128/51

[51] **Int. Cl.** **A61h 7/00**

[58] **Field of Search** 128/28, 51, 52, 67; 5/338

[56] **References Cited**

UNITED STATES PATENTS

3,509,899	5/1970	Hewson	128/28 X
3,307,541	3/1967	Hewson	128/28 X

Primary Examiner—Lawrence W. Trapp

Attorney, Agent, or Firm—Kenway, Jenney & Hildreth

[57] **ABSTRACT**

A support for a supine human body to facilitate cardiopulmonary resuscitation features an inclined surface shaped to accommodate the human back from the shoulders to the buttocks in a narrow cradle, and to elevate the central shoulder region about 3–4 inches. The shoulder support region merges into a portion shaped to accommodate the head about 3 inches lower than the central shoulder region.

4 Claims, 6 Drawing Figures

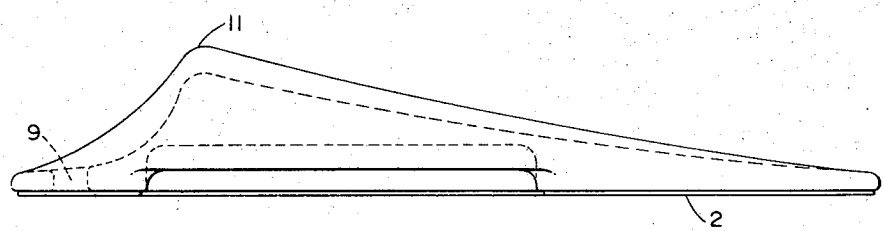


FIG. 1

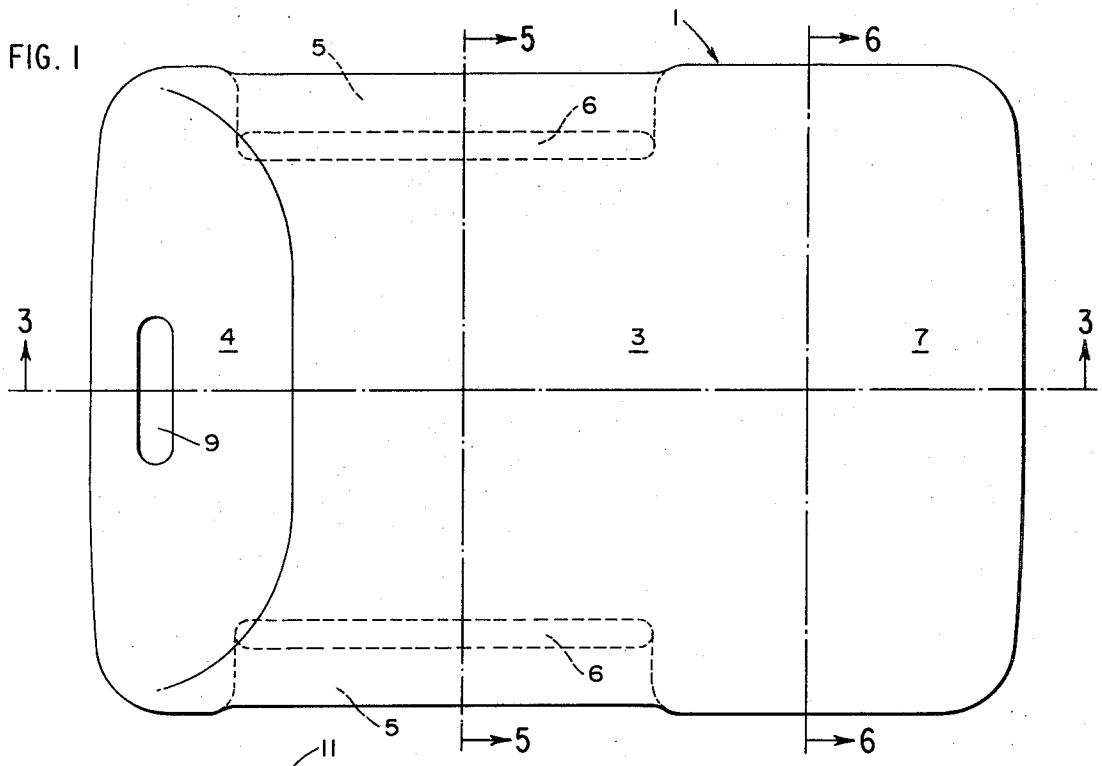


FIG. 2

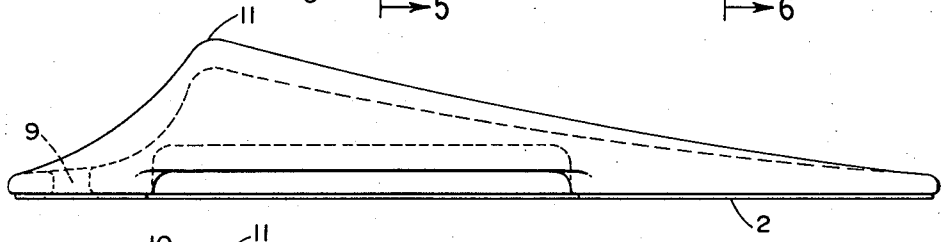


FIG. 3

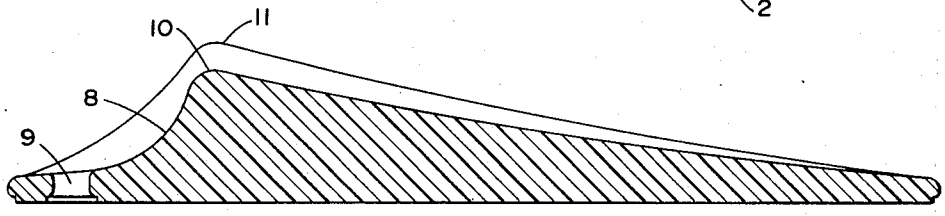


FIG. 4

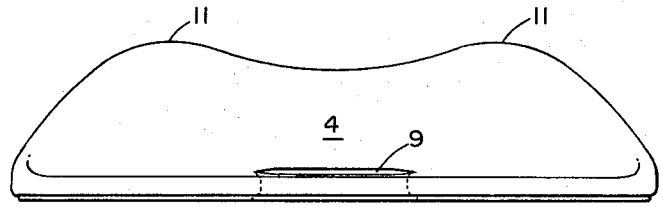


FIG. 5

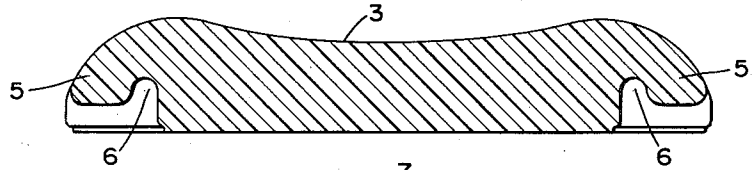
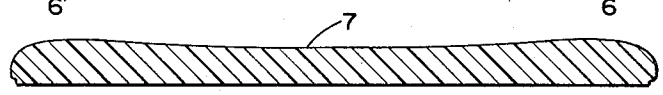


FIG. 6



RESUSCITATION SUPPORT

BRIEF DESCRIPTION

This invention relates to a support particularly useful for cardiopulmonary resuscitation for humans.

Closed chest cardiopulmonary resuscitation can be applied simply and rapidly and has a long history of effectiveness. The heel of the hand applies rapid compressive pressure at the sternum to depress the intrathoracic space. The sterum is caused to move about 1 ½ to 2 inches towards the vertebrae, is held there briefly and then is released rapidly at a rate of about 60 to 80 compressions per minute. When the patient is resting on his back completely on a flat surface, the sternum in its natural position is compressed somewhat towards the vertebrae so that for a given hand pressure, the resultant depression is less than would be effecbed when the sternum is expanded and therefore the pressure to the heat is correspondingly reduced. Therefore, it is highly desirable to place the patient in a position such that the sternum is expanded from its normal position so that for a given hand pressure, the resultant pressure on the heart is increased thereby increasing the effectiveness on the cardiopulmonary resuscitation.

The present invention provides a support for a human which causes the sternum to be expanded away from the vertebrae when no pressure is applied to the chest cavity. The top surface of the support is shaped with a first portion thereof, adapted to accommodate the back of a supine patient from his shoulders to his buttocks, inclined to raise the central shoulder region of the patient about 3–4 inches. The remaining portion of the top, supports the patient's head about 2–3 inches lower. In addition, means for grasping the support with the hands are provided at the sides of the support located at the position that may be grasped to shift the patient.

DESCRIPTION OF DRAWINGS

This invention will be more fully understood with reference to the accompanying figures.

FIG. 1 is a top view of the support of this invention.

FIG. 2 is a side view of the support of this invention.

FIG. 3 is a cross-sectional elevated view of the support taken along the lines 3—3 of FIG. 1.

FIG. 4 is an elevational view of the support of FIG. 1 viewed from the headrest.

FIG. 5 is a cross-sectional view of the support of FIG. 1 taken along line 5—5.

FIG. 6 is a cross-sectional view of the support of FIG. 1 taken along line 6—6.

PREFERRED EMBODIMENT

Referring to the figures, the support, generally indicated by 1, is solid and is made from a material having sufficient strength to support a normal adult human being. It is preferred that the support 1 be made from a rigid foam material such as polyurethane foam to provide ease of hand transportation. The support 1 has a flat bottom 2 and a top comprising a backrest portion 3 and a head and neckrest portion 4. Two bars 5 are formed on either side of the support 1 to permit moving of a patient lying on the surface 3. The bars 5 are molded in a configuration so that the fingers of the patient can extend into recesses 6. The top portion 3 is contoured to accommodate the shape of a human back and is substantially flat at the lower end 7 thereof. The head and neckrest portion 4 is molded to form a recess 8 to accommodate the head and neck and optionally may have a hole 9 therein to hand-facilitate transporting the support.

The back supporting portion is inclined sloping upwardly from the buttocks region to the shoulders so as to raise the center of the back or central shoulder region about 3–4 inches. This portion has a narrow cradle contour with parallel ridges surrounding the center back region, spaced apart by about 9 inches and raised from the enter back region by about one-half inch.

The back supporting region terminates a depressed head rest with a head supporting platform about 2–3 inches lower than the center back support.

In use, the patient lies back down on top section 3 and lies his head back so that it pivots on edge 10 and rests on recess 8. The raised ridges 11 prevent the patient from slipping from the support, 1, while the patient is supported largely at the spinal column with the shoulder back and the sternum extended in a manner that greatly facilitates manual cardiopulmonary resuscitation.

Having thus described our invention we claim:

1. A support for the human body adapted to facilitate cardiopulmonary resuscitation of a human body resting thereon which comprises a rigid structure having a substantially flat bottom surface, a back supporting portion having an inclined top surface shaped to support a human back from the shoulders to the buttocks, and to elevate the mid-shoulder region by about 3–4 inches and a head support portion adjacent the shoulder and recessed therefrom to support the head 2–3 inches below the mid-shoulder region, said back supporting portion being formed in a cradle shape by two ridges surrounding the mid-shoulder region, spaced apart by about 8–10 inches, and raised from the mid-shoulder region by about one-half inch.

2. The support defined by claim 1 having hand grasping means for positioning a human body resting on the support.

3. The support defined by claim 1 having means for transporting the support formed therewith.

4. The support defined by claim 2 having means for transporting the support formed therewith.

* * * * *

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,804,082 Dated April 16, 1974

Inventor(s) Peter P. Tarjan, Jacob Goldstein & Esperanto J. Simicich

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 1, at the end of line 18, "effecbed" should be --effected--; and on line 20, after "the", "heat, should be --heart--.
Column 2, line 24, after "the", "enter" should be --center--; and on line 25, after "terminates", insert --in--.
Cancel claim 4, Column 2, lines 56 and 57.

Signed and sealed this 17th day of September 1974.

(SEL)
Attest:

McCOY M. GIBSON JR.
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents

FORM PO-1050 (10-69)

USCOMM-DC 60376-P69
* U.S. GOVERNMENT PRINTING OFFICE 1969 O—366-334.