T. F. GLEASON.

LIFE SAVING APPARATUS.

APPLICATION FILED OCT. 30, 1913.

1,093,987.

Patented Apr. 21, 1914.

2 SHEETS—SHEET 1.

FIG. 1

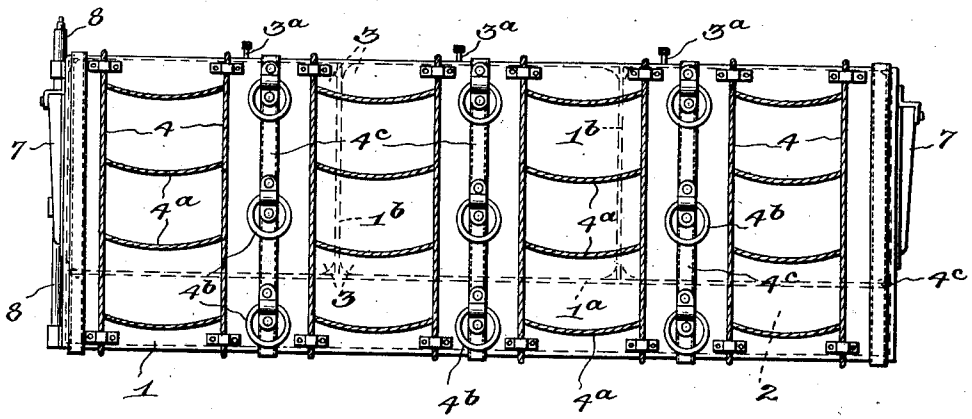
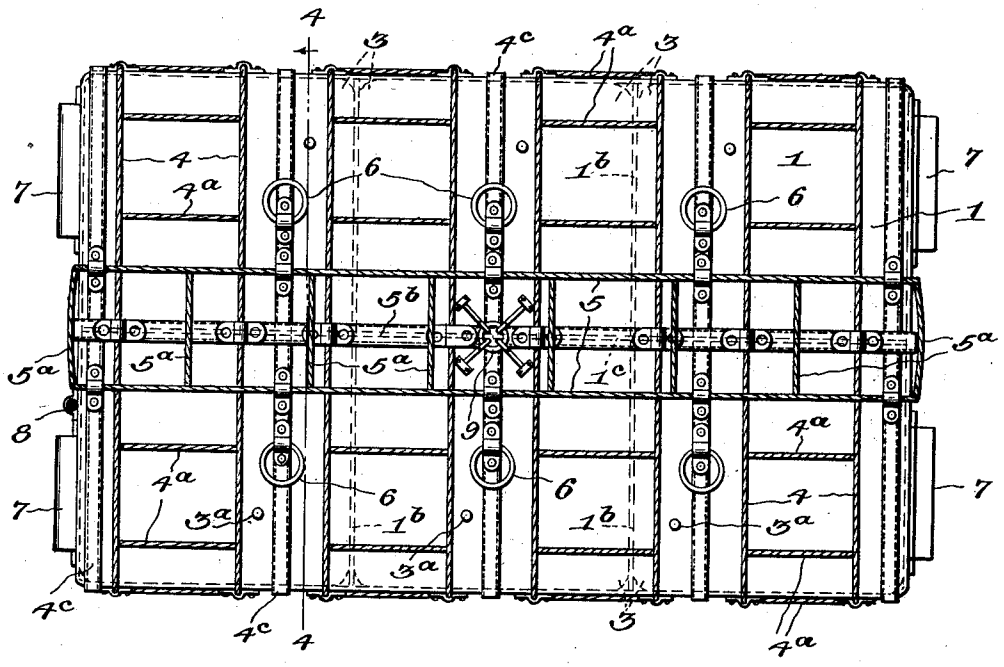


FIG. 2



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

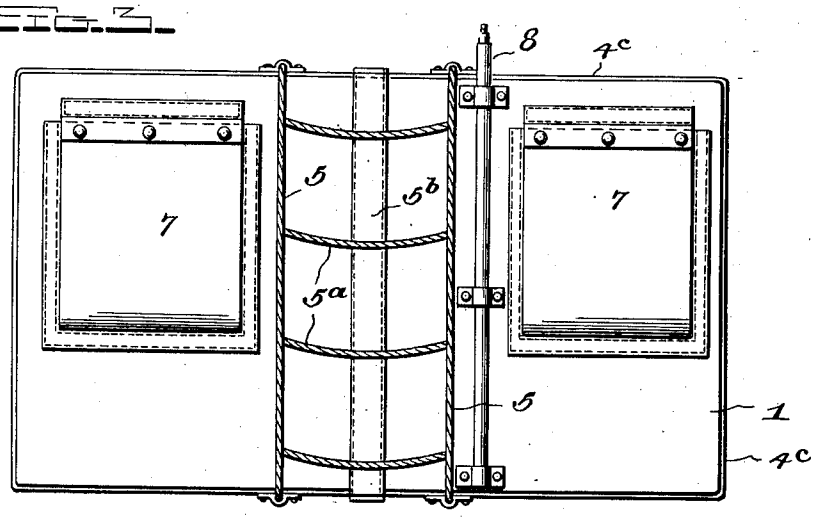


Fig. 4.

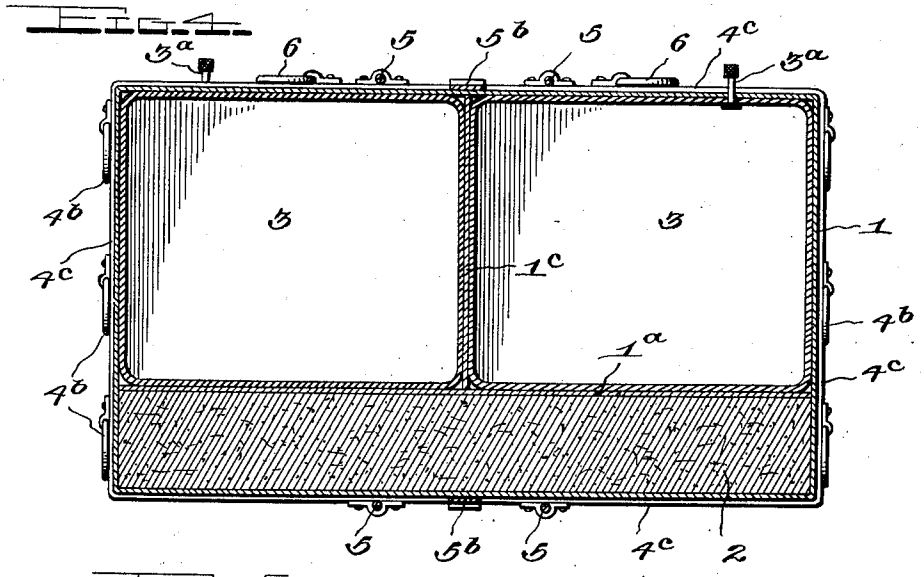
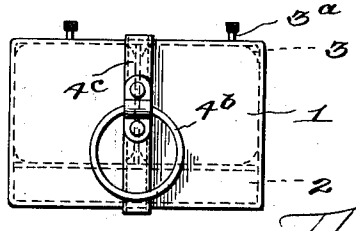


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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LIFE-SAVING APPARATUS.

1,093,987. Specification of Letters Patent. **Patented Apr. 21, 1914.**

Application filed October 30, 1913. Serial No. 798,243.

To all whom it may concern:

Be it known that I, THOMAS F. GLEASON, a citizen of the United States, residing at Muscatine, in the county of Muscatine and State of Iowa, have invented certain new and useful Improvements in Life-Saving Apparatus; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improved life saving apparatus and its object is to provide a collapsible inflatable and non-sinkable raft which can be made of any desired size and capable of keeping afloat a large number of people, and which can be deflated when not in use, so that it can be stored in comparatively small space, and can be easily inflated when it is desired to use same.

The apparatus may be called a life saving raft although it is essentially different from the ordinary construction of so-called life "rafts" in that it has substantially no rigid metal floats and is practically one unitary structure.

The invention will be more readily explained and understood by referring to the accompanying drawings which in connection with the following description will enable those skilled in the art to manufacture and utilize the invention; and the raft is capable of considerable variation in size and proportions of parts within the scope of the invention.

In said drawings: Figure 1 is a side view of the apparatus. Fig. 2 is a top plan view of said apparatus. Fig. 3 is an enlarged end view. Fig. 4 is an enlarged transverse sectional view on line 4—4, Fig. 2. Fig. 5 is a detail view of a small life preserver.

The raft is composed principally of a bag or casing 1 preferably made of canvas or other flexible material which is painted or waterproofed in any suitable manner—preferably inside and out; and this casing approximately conforms to the exterior contour of the complete raft and is preferably longer that wide and wider than high, so that when placed in the water it will maintain a horizontal position, as indicated in Fig. 1. Within and at the base of this casing and preferably extending across the entire bottom thereof, is a thick layer of cork 2 which may be confined in position in the casing in any suitable manner, preferably by placing a top covering 1^a of material similar to the casing material on top of this cork layer 2, and such covering 1^a forming a false bottom within the casing on top of the layer 2; while the layer 2 is referred to as cork any other suitable very light buoyant material may be used; cork however is preferred.

The interior of the casing above the false bottom 1^a is preferably divided into a series of compartments, the number of such compartments varying according to the size of the raft, six being shown in the drawings, such compartments being formed by means of transverse partitions 1^b and longitudinal partitions 1^c preferably formed of the same material as the casing 1, such partitions being securely united by sewing, riveting or other suitable manner to each other at their edges meshing with the top and side walls of the casing 1 and the false bottom 1^a where they contact therewith. In each of these compartments in the casing is placed an inflatable bag or bladder 3 made of any suitable material; I prefer to use rubber or a rubberized fabric which will be impermeable to air and which is made to externally conform to the interior of the compartments when inflated so that when inflated it will completely fill said compartment and the walls of the bag will be strengthened and braced by the walls of the compartment. As shown each bag 3 may be provided with a filling tube 3^a that extends through a suitably arranged aperture preferably in the top of the casing, and which filling tube may be provided with any suitable valve or closure, not shown, such for example as used on the filling tubes of pneumatic tires of vehicles; these are well known and need not be described or illustrated herein.

Each bag may be inflated by connecting its filling tube either with an air pump, (not shown) or with a compressed air storage chamber, (not shown); or in cases of emergency by persons blowing into them. When all the bags are inflated the raft assumes the shape indicated in the drawings and is ready

to be launched and when launched as the bottom is slightly heavier than the top it will keep right side up.

The casing is braced so as to assist its walls in withstanding pressure of the air bags therein by means of transversely arranged bands 4^c which may extend entirely around the raft transversely thereof and be suitably attached to the casing. The casing may be further reinforced by ropes 4, and adjacent ropes 4 may be connected by small cords 4^a which form hand-holds or rungs by which persons in the water can hold on to the raft, or climb onto the raft, and enabling persons on top of the raft to hold thereto. I preferably also have reinforcing bands or ropes 5 extending longitudinally around the raft as shown, and the adjacent ropes 5 may be connected by cords or flexible rungs 5^a to also enable persons to hold on to or climb upon the raft.

To the bands 4^c may be attached rings 4^b by which the raft can be carried when on shore or on a vessel, and to which persons can be secured by belts or other suitable fastenings if they are not able to hold onto the rings or when the raft is in very rough water. The straps or bands 4^c and 5 may be of any suitable material so that they will not interfere with the folding or collapsing of the casing when the raft is to be packed or stored. Rings 6 may be attached to the bands 4^c on top of the raft, to which children and women may be tied to secure them on the raft.

The larger sized rafts may be also provided with exterior pockets 7 which may be made of the same material as the casing and sewn or otherwise secured thereto, and which will serve as receptacles for fresh water and food, when the raft is used in cases of emergency or shipwreck a distance from land.

To one end of the raft may be secured a metal tube 8 which may be used as a step for a mast for displaying signals. I propose to provide the larger floats with a hollow jointed mast telescoped into the tube 8.

The raft may be provided at center and top with a ring or loops 9 by which it can be readily lifted by a derrick, davit or crane and swung from the boat.

When the air bags are deflated the upper part of the raft can be collapsed upon the false bottom 1^a and the whole stored in comparatively small space. When the raft is to be used the several bags should be inflated until the raft is entirely expanded, and then it can be launched, and according to its size will carry a number of people up to its full capacity. The cork layer in the bottom gives buoyancy to the raft even if it has to be launched before inflation is complete, and it will keep the raft in position so that persons can complete the inflation of the air bags after the raft is launched. In Fig. 5 I have shown a small raft having but two compartments or bags and simply provided with one ring, which may be used in place of the ordinary life preservers and kept in the state-rooms and berths of vessels.

What I claim is:

1. A life saving raft comprising a collapsible casing provided with a bottom layer of buoyant material, and an inflatable collapsible compartment above said layer.

2. A life saving raft comprising a collapsible casing provided with a bottom layer of buoyant material, and having a plurality of collapsible independently inflatable compartments above said layer.

3. A life saving raft comprising a collapsible casing provided with a bottom layer of buoyant material, and having a plurality of collapsible independently inflatable compartments above said layer and an inflatable bag in each compartment.

4. A life saving raft comprising a collapsible casing provided with a bottom layer of buoyant material, and a collapsible inflatable compartment above said layer, with exterior reinforcing bands surrounding the casing, and bracing the same.

5. A life saving raft comprising a collapsible casing provided with a bottom layer of buoyant material, and a collapsible inflatable compartment above said layer, with exterior reinforcing bands surrounding the casing, and bracing the same, and flexible ladders attached to the exterior of the casing.

6. A life saving raft comprising a collapsible casing provided with a bottom layer of buoyant material, and having a plurality of inflatable compartments above said layer; with an inflatable bag in each compartment, exterior reinforcing bands surrounding the casing and bracing the same, and flexible ladders attached to the exterior of the casing.

7. A life raft comprising an exterior collapsible casing of suitable fabric having a false bottom, a layer of buoyant material such as cork in said casing below the false bottom, collapsible partitions in the casing above said false bottom dividing it into compartments, and an inflatable air bag in each compartment.

8. A life raft comprising an exterior collapsible casing of suitable fabric, a layer of buoyant material such as cork in the bottom of said casing, collapsible partitions in the casing dividing it into compartments, an inflatable air bag in each compartment, and reinforcing bands surrounding the casing and attached to the exterior thereof.

9. A life raft comprising an exterior collapsible casing of suitable fabric having a false bottom, a layer of buoyant material such as cork in said casing below the false bottom, collapsible partitions in the casing

above said false bottom dividing it into compartments, an inflatable air bag in each compartment, reinforcing bands surrounding the raft and attached to the exterior of the casing, and flexible ladders also attached to the exterior of the casing and extending transversely and longitudinally of the raft.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

THOMAS F. GLEASON.

Witnesses:

ANNA SOPHIA GLEASON,

AM. DAVIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."