(No Model.)

C. BASWITZ.

LIFE BOAT.

No. 517,536. Patented Apr. 3, 1894.

Fig. 1.

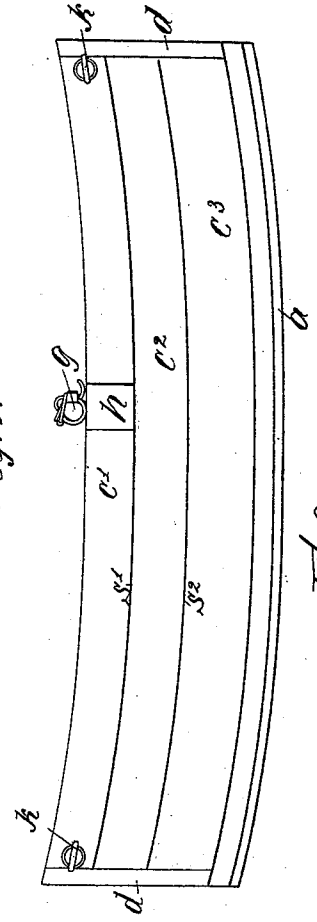


Fig. 2.

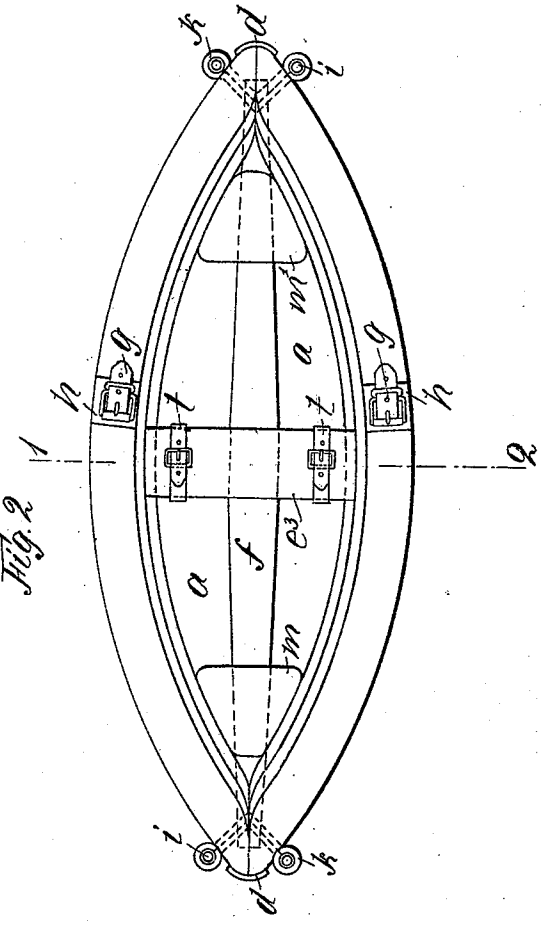


Fig. 3.

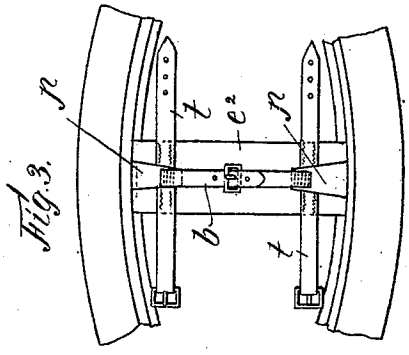
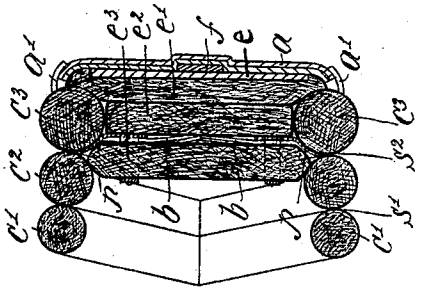


Fig. 4.



Witnesses.
E. Schultze.
R. Herpich.

Inventor.
Carl Baswitz.
by.
Robert Heipla
Attorney.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CARL BASWITZ, OF BERLIN, GERMANY.

LIFE-BOAT.

SPECIFICATION forming part of Letters Patent No. 517,536, dated April 3, 1894.

Application filed June 17, 1893. Serial No. 478,018. (No model.) Patented in Germany September 24, 1892, No. 68,641, and in England November 24, 1892, No. 21,469.

To all whom it may concern:

Be it known that I, CARL BASWITZ, a subject of the King of Prussia, German Emperor, and a resident of Berlin, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Life-Boats, (for which patents have been obtained in Germany, No. 68,641, dated September 24, 1892, and in Great Britain, No. 21,469, dated November 24, 1892,) of which the following is an exact specification.

This invention relates especially to life-boats, but may be used also for portable boats, boats for floating bridges, and other boats requiring buoyancy and lightnes, and capacity to resist heavy shocks without breaking or injury.

In order to insure lightness and buoyancy boats of the class above referred to are at present often constructed with canvas sides stretched over and supported by a frame work of wood, metal, or other rigid or breakable material, and their buoyancy is frequently increased by the employment of air containing tubes, or cushions. The rigid or breakable frame work of such boats is however apt to break or become injured under the heavy shocks to which they are liable to be frequently subjected, and the canvas sides are easily torn, the same shocks also are liable to cause the bursting or fracture of the air containing tubes, or cushions (when such are employed) into which the water consequently penetrates, when they of course not only lose all their buoyant properties, but have rather the effect of ballast on the boat.

Now the object of the present invention is to produce a light, strong and extremely buoyant boat, composed entirely of elastic or yielding and buoyant material, which from its elastic or yielding properties will remain uninjured by the heaviest shocks and will be practically almost indestructible.

According to my invention, I construct each side of my improved boat of what I term a "bolster," consisting of a cover or container of some closely woven watertight fabric, such as canvas or cotton, tightly stuffed with some suitable material of low specific gravity, preferably reindeer hair. The said bolsters are so disposed and shaped as to produce the desired form of the sides of the boat, and at the stem and stern they meet in a point, and their junctions are stitched together and preferably protected by strong overlapping bindings, which may be of leather. The tightly stuffed bolsters while elastic and yielding possess in themselves sufficient stiffness to render the employment of a supporting frame-work of any sort unnecessary. In practice I prefer to divide the cover of each bolster into several longitudinal watertight compartments, by means of longitudinal seams, the said compartments, when filled with the reindeer-hair or other material employed, forming superposed stuffed tubes. By dividing each longitudinal compartment by transverse seams, the number of watertight compartments in the bolster may be further increased. Or each bolster may consist of separate superposed stuffed tubes suitably stitched together. I prefer to employ reindeer-hair as a stuffing for the bolsters, as it possesses the least specific gravity of any known hair (save camel hair, which would be too expensive) and is by reason of the fineness of its capillary tubes extremely difficult to wet; consequently, should the water penetrate into the bolsters by any rent or orifice, the closely packed reindeer-hair will soon arrest its progress, and air will still be maintained in the inner parts of the injured bolster, which will consequently retain its buoyancy.

In order to make my meaning more clear, I refer to the accompanying drawings, in which similar letters denote similar parts, and in which—

Figure 1 is a side elevation of a life-boat constructed according to my invention. Fig. 2 is a plan of Fig. 1. Fig. 3 is an under view of the middle part of Fig. 2. Fig. 4 is a transverse section on line 1—2 of Fig. 2.

a is the bottom of the boat shown as composed of several layers of water-tight fabric. The sides of the boat are composed each of three superposed bolsters or stuffed tubes c' c^2 c^3, each tube being made of one piece of sail-cloth and closed by longitudinal seams s' s^2. The bottom *a* is connected with the covers of the lowermost bolsters c^3 by means of intermediate strips a' of sail cloth. The bolsters or stuffed tubes c' c^2 c^3 forming the sides of the boat meet in a point at the stem and

stern of the boat and are there joined together by stitching, and protected by strong overlapping bindings $d\,d$, which may be made of leather and can be strengthened by putting wood-laths into them. Light boards or stretchers e, extending transversely across the boat may be forced under the cross-cushion e', as shown in Figs. 2 and 4, and serve as foot boards. Besides this, there are arranged in the boat, shown in the drawings, two superposed cushions $e^2\,e^3$ of which the cushion e^3 rests directly on the cushions e'. Between the cushions e^2 and e^3 there are situated two pieces of stuff p (Fig. 3) which are fastened to the sailcloth between the bolsters c^2 and c^3. The pieces p are connected by straps or belts b, by means of which they may be lapped strongly together, as shown in Figs. 3 and 4. Each of the pieces p is provided with a strap t serving for fastening the cushion e^3 in the manner illustrated by Figs. 2, 3 and 4 of the drawings. By this arrangement the side bolsters $c'\,c^2\,c^3$ are stiffened and prevented from straining laterally.

f is a stretcher which extends from stem to stern and may be employed advantageously to prevent sagging of the bottom, when the boat is loaded. The stretcher f lies above, or rather within the bottom a as shown in Fig. 4 and is fastened on stem and stern end or also in the middle of the boat by being put into sailcloth-pockets, joined to the bottom a jutting out correspondingly in the middle; the transverse boards e and longitudinal stretcher f are preferably constructed of poplar wood, as being light and not easily broken. Further I arrange in the stem and stern of the boat cushions $m\,m'$ (Fig. 2) and prefer to employ several superposed cushions of this kind according to the desired height.

In lieu of metal rowlocks, I prefer to employ straps or ropes provided with a buckle for encircling the oars, as shown at $g\,g$, Figs. 1 and 2, these straps or ropes are secured to broad leather straps $h\,h$ which pass around the uppermost bolsters $c'\,c'$.

$i\,i$ are metal thimbles encircled by ropes k k, which pass through the bolsters $c'\,c'$ fore and aft, through which thimbles the fastening ropes or life ropes of the boat are intended to be drawn.

Although in the drawings I have represented each side of the boat as composed of three superposed stuffed tubes $c'\,c^2\,c^3$, two or more superposed stuffed tubes may be employed if desired, also the bolsters might be strengthened by other bolsters or stuffed tubes, secured side by side with them, the number of bolsters or stuffed tubes superposed or placed side by side will, of course, depend to some extent upon the desired buoyancy, depth and strength, required in the boat.

From the foregoing description it will be seen that with the exception of the transversal boards and longitudinal stretcher and the laths on stem or stern, which are all removable and unimportant parts of the boat, the entire boat is composed of yielding or elastic and buoyant material, which cannot possibly be fractured or injured by heavy shocks, the boat is consequently extremely light and practically indestructible, and is therefore pre-eminently fitted for use as a life-boat, and as a portable boat for military, explorative, and other purposes; also, by reason of its small draft, it may be used on shallow coasts where there is often considerable surf, and where a landing by means of wooden boats would be impracticable; in tropical countries too, where the difference of temperature between the day and night is so great, the elasticity of the entire boat will be found to be a great advantage as it will compensate for the differences in temperature. Boats constructed according to my invention are also by reason of their buoyancy and strength peculiarly adapted to serve as supports for floating bridges, especially when their bottoms are also stuffed, or formed of a bolster.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A boat, having its sides composed of bolsters meeting at stem and stern, said bolsters consisting of envelopes of a watertight fabric stuffed with a yielding buoyant material of low specific gravity, the bottom of the boat also consisting of watertight fabric stayed by a rigid stretcher reaching from stem to stern, for the purpose as described.

2. A boat, having its sides composed of bolsters $c'\,c^2\,c^3$ meeting at stem and stern, said bolsters consisting of envelopes of a watertight fabric stuffed with a yielding buoyant material of low specific gravity, the bottom of the boat also consisting of watertight fabric stayed by a rigid stretcher f reaching from stem to sterm, said stretcher supporting cross-stretchers e carrying bolsters $e'\,e^2\,e^3$, the latter being adapted to be used as seats, for the purpose as described.

3. A boat, having its sides composed of bolsters $c'\,c^2\,c^3$ meeting at stem and stern, said bolsters consisting of envelopes of a watertight fabric stuffed with a yielding buoyant material of low specific gravity, the bottom of the boat, also consisting of watertight fabric stayed by a rigid stretcher f reaching from stem to stern, said stretcher supporting cross-stretchers e carrying bolsters $e'\,e^2\,e^3$, the latter being adapted to be used as seats, the upper bolster or seat-bolster proper being held by straps t secured to cross-straps $b\,p$, the latter connecting the sides of the boat, for the purpose as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CARL BASWITZ.

Witnesses:
R. HERPICH,
E. SCHULTZE.