

**June 5, 1928.**

**1,672,473**

F. SCHEIBERT

INFLATABLE AND COLLAPSIBLE BOAT

Filed March 11, 1926

*Fig. 1.*

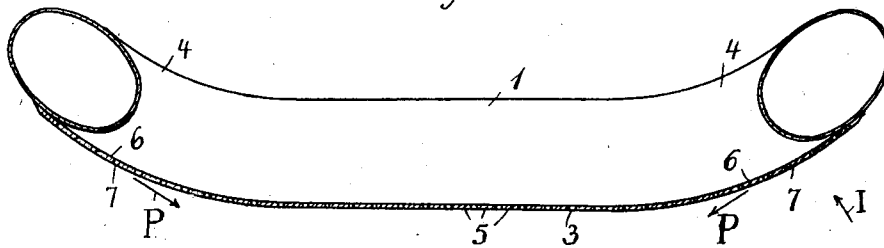


*Fig. 2.*

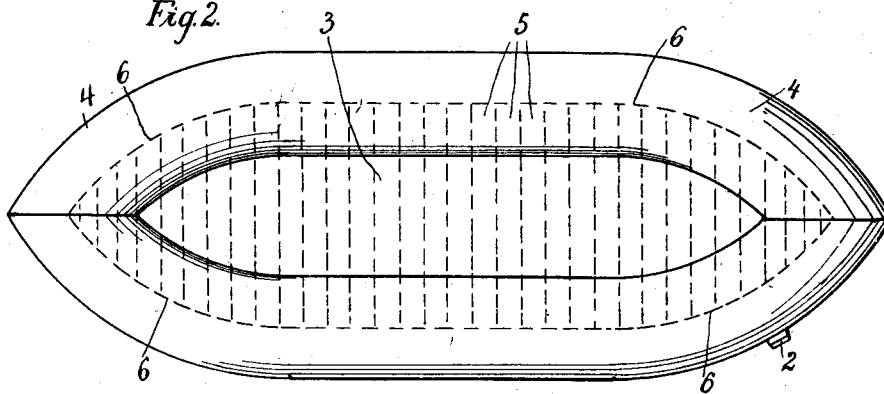


*Fig.3.*

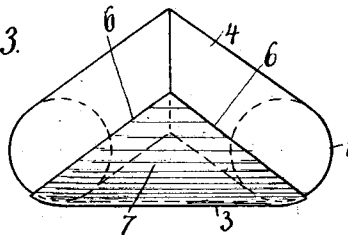
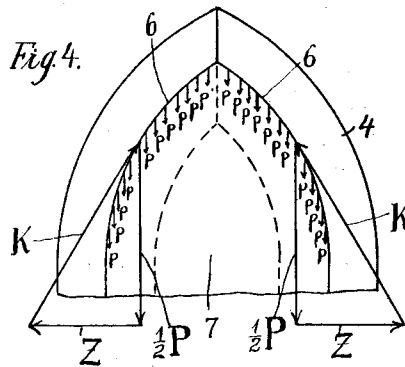


*Fig. 4.*



*Inventor.*

Friedrich Lheiberts

## UNITED STATES PATENT OFFICE.

FRIEDRICH SCHEIBERT, OF LUBBEN, GERMANY.

INFLATABLE AND COLLAPSIBLE BOAT.

Application filed March 11, 1926. Serial No. 93,868.

My invention relates to improvements in an inflatable and collapsible boat provided with a tube which is inflated with air for the purpose of keeping the boat afloat, whereas the tube and the bottom connected therewith are capable to be folded, if the air is allowed to escape out of the tube.

The bottom in the boats of the type known is arranged approximately in the symmetrical plane of or distant from the lowermost exterior edges and attached to the inner faces of the tube provided forming ascending bow and stern portions at the boat ends. By these arrangements the bottom tends to turn the tube around its axis and produces such a torsion-effect that the form of the boat is changed. Further, it is necessary to diminish the effect of the bottom-load tending to tear the bottom from the tube.

In the boat according to the present invention, the said inconveniences are obviated. These objects are attained by the attachment of the bottom to the lowermost exterior edges of the middle tube-parts and to the frontal exterior edges of the ascending stern and bow-portions forming ogival arches. In this novel structure the ascending bottom-portions form frontal walls of the ogival stern and bow-portions of the tube and constitute a breakwater reflecting and turning the waves aside. The attachment of the bottom ends to the upwardly inclined exterior edges of the ascending tube-portions ogivally shaped forms also an effective means for counteracting the injurious torsional moment of the tube.

One form of the invention is illustrated in the accompanying drawing, in which Figure 1 is a vertical section of the entire boat; Fig. 2 a plan view of the boat; Fig. 3 a frontal view of the boat; and Fig. 4 a diagrammatic frontal view seen in the direction of the arrow I of Fig. 1 and illustrating the statical action of the end-parts of the boat.

An endless pneumatic tube or tubular hull 1 having an air-inlet 2 and a bottom 3 secured to the tube 1 constitute the inflatable boat. The air-inlet 2 is provided with an air valve to permit the inflation of the tube with air by means of a bellows. The tube 1 comprises horizontal middle portions and connecting end-portions 4 relatively upwardly inclined to form a relatively ascending stern and bow. The bottom 3 consists of waterproof-fabric enclosing preferably a plurality of wooden battens 5 and is attached to the

lowermost exterior edges of the middle portions and to the frontal exterior edges 6 of the ogivally shaped end-portions of the tube 1.

As clearly shown in the drawing, the tubular air-hull having substantially horizontal middle-portions and connecting ogivally shaped and upwardly inclined end-portions is secured at its frontal exterior edges 6 to the inclined end-portions of the bottom which connect tangentially the inclined halves of the end-portions of said tubular hull to form frontal walls of the boat. These frontal bottom-parts 7 have the particular function to parry the race of the water moving against the boat and to cause the water to flow aside. The novel attachment imparts further a great stability and a maximum of buoyancy and eliminates the fatal tendency of known boat-types to submerge with their bow-portions, if the boat will be tugged on the water or anchored in a torrent.

According to the novel conformation of the bottom, the end-parts 7 of the latter involve the capacity to support better the load tending to tear the bottom from the tube 1. This force P (Figs. 1 and 4) is no more directed across the bottom-ends, but only along the exterior edges 6 of the ogival tube-arches 4 upwardly inclined. Therefore, the tube members forming ogival arches are better enabled to counteract this stress P of the bottom by means of the air-column extending within the tube-portions in the same inclined direction as the bottom-parts 7.

The force P is equivalent to the totality of the specific forces  $p$  loading the exterior edges 6 of the hull, as shown in Fig. 4. On each half of one ogival hull-arch 4 acts the force  $\frac{1}{2} P$ . It will be understood that this force  $\frac{1}{2} P$  will be counter-balanced by means of a force K resulting from the pressure of the air-column enclosed in said half of the hull-arch. This pressure tends to stretch the bottom-parts 7 upwardly in the direction of the arrows K and transversally in the direction of the arrows Z shown in Fig. 4. Therefore, the novel arrangement realizes strictly the demands of a statical structure corresponding with the rules of statics, from which results a maximum of stiffness and the greatest carrying capacity of the entire boat.

Having now described the invention, what I claim as new and desire to have protected by Letters Patent, is:

1. An inflatable and collapsible boat structure of the character set forth, comprising a tubular air hull fastened upon the topside of a flexible bottom having upwardly inclined stern and bow portions forming frontal boat-walls at the upwardly inclined ogivally shaped stern and bow portions of said hull. 5
2. An inflatable and collapsible boat structure of the character set forth, comprising a tubular air-hull presenting horizontal middle portions connected by means of ogivally shaped and upwardly inclined end-portions and a collapsible bottom secured to the lowermost edges of said middle hull-portions 15 and to the frontal exterior edges of said ascending ogivally shaped hull-portions to form frontal boat-walls connecting tangentially the inclined halves of said ascending hull-portions. 20
- In testimony whereof I have signed my name to this specification.

FRIEDRICH SCHEIBERT.