

J. BÜTTGEN.
 PRESSURE RESISTING RECEPTACLE.
 APPLICATION FILED JULY 22, 1909.

1,045,673.

Patented Nov. 26, 1912.

Fig. 1.

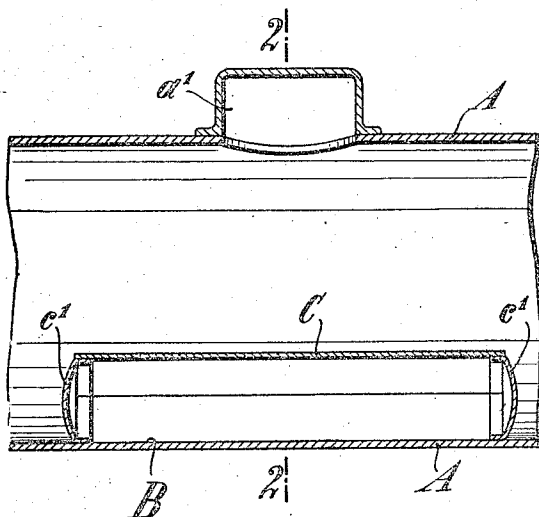


Fig. 2.

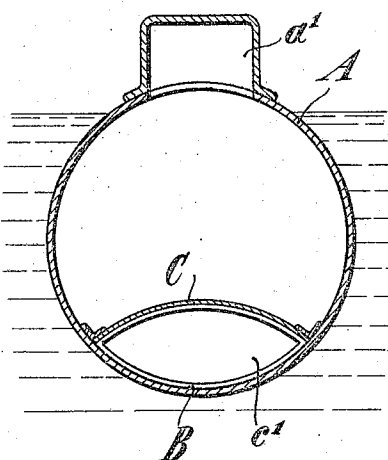


Fig. 3.

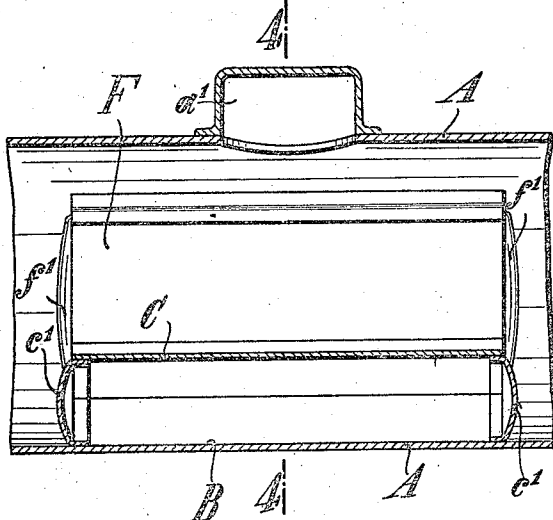
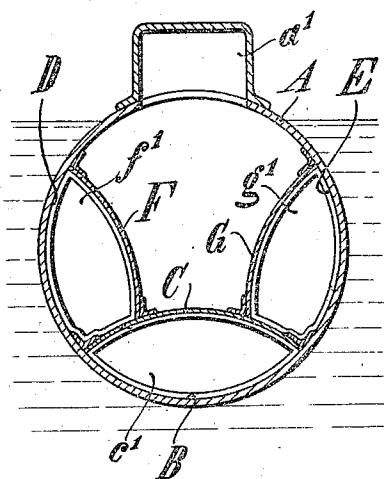


Fig. 4.



Witnesses
 Janet M. Hynke
 Cora B. Melton

Inventor,
 Jacob Büttgen.
 By Knight & Co.
 attorneys.

UNITED STATES PATENT OFFICE.

JACOB BÜTTGEN, OF KIEL, GERMANY, ASSIGNOR TO FRIED. KRUPP AKTIENGESellschaft GERMANIAWERFT, OF KIEL-GAARDEN, GERMANY.

PRESSURE-RESISTING RECEPTACLE.

1,045,673.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed July 22, 1909. Serial No. 508,913.

To all whom it may concern:

Be it known that I, JACOB BÜTTGEN, a subject of the German Emperor, residing at Kiel, Germany, have invented a new and useful Pressure-Resisting Receptacle, of which the following is a specification.

The present invention relates to pressure-resisting receptacles which are arranged in the interior of the pressure-resisting hull of submarine boats and which serve for containing compressed air or the like.

The object of the invention is to provide receptacles of this type which are capable of withstanding great pressure and occupy only small space and require only small expenditure of material.

The accompanying drawings illustrate the invention by way of example.

Figure 1 is a vertical longitudinal section through a single pressure-resisting receptacle arranged in the central part of a submarine boat which part carries the conning tower; Fig. 2 is a section on line 2—2, Fig. 1, looking from the left; Fig. 3 is a view corresponding to that shown in Fig. 1 and showing a plurality of pressure-resisting receptacles, and Fig. 4 is a section on line 4—4, Fig. 3, looking from the left.

A indicates the pressure-resisting body or hull of the submarine boat which carries the conning tower a^1 , and B indicates the pressure-resisting receptacle. The receptacle B is of bi-convex cross section (Fig. 2) and is formed by a part of the wall of the pressure-resisting hull A, an arched partition wall C, which is preferably located in the lower portion of the vessel, with its chord lying horizontal and extends longitudinally of the boat, and two arched end walls c^1 . Preferably, the wall C is less than a semi-circle and geometrically its radius is such that it intersects an approximately similar arc of the hull A.

In the embodiment of the invention shown in Figs. 3 and 4, two further pressure-resisting receptacles D and E are provided in addition to the receptacle B shown in Fig. 1. The receptacles D and E are formed by parts of the wall of the pressure-resisting hull A, arched partition walls F and G which extend longitudinally of the boat, and arched end-walls f^1 and g^1 . A part of the walls of the receptacles D and E is furthermore formed by parts of the wall C of the receptacle B. The walls F and G are less

than a semi-circle and they constitute arches sprung from the convex side of the wall C to the walls constituting the hull A.

Due to their flat cross-section the receptacles B D and E occupy only comparatively small space in the boat. As a part of the wall of the hull A is used in the receptacles the receptacles only require small expenditure of material and the receptacles are capable of resisting great pressure from the inside as all the confining walls of the receptacles are arched.

Having thus described my invention, what I claim as new therein and desire to secure by Letters Patent, is:—

1. In a submarine boat, a pressure resisting receptacle within the hull, said receptacle having a bi-convex cross section and approximately rectangular length section, the arcuate bottom of the hull constituting the bottom of said receptacle, an arcuate plate secured to the bottom at its points of intersection constituting the roof and two arcuate plates constituting the end walls of said receptacle and being secured to the roof and the bottom.

2. In a submarine boat, the combination with the hull of the boat, of a plurality of pressure-resisting receptacles of bi-convex cross section and rectangular length section arranged in the interior of the boat and each having one of its longitudinally confining walls formed by the wall of the hull, and a plurality of arched partition walls each forming the second longitudinal confining wall of the receptacles; one of said partition walls forming part of the confining wall of several of said receptacles, and arcuate plates forming end walls of said receptacle.

3. A submarine boat comprising a hull of circular cross section forming a central chamber, an arched or curved inner wall extending longitudinally of the boat, supported from the curved wall of the hull, with its chord substantially horizontal, two arcuate end walls forming with the intersected portion of the hull a pressure resisting chamber within the hull of bi-convex cross section and rectangular length section.

4. A submarine boat comprising a hull having a curved bottom wall, an arched or curved inner wall extending longitudinally of the boat, supported from the curved wall of the hull, with its chord substantially horizontal and forming with the intersected

portion of the hull a pressure resisting chamber; said hull also having curved or arched walls extending upwardly from the convex side of said lower arched wall, to the side walls of the hull and forming with said lower and side walls, additional pressure resisting chambers.

5. In a submarine boat, the combination with an arcuate longitudinal outer wall of the hull, an arcuate longitudinal inner wall disposed so as to intersect the outer wall, the radii of the arcs formed by the two walls being equal, and arcuate, transverse walls, said walls forming a pressure resisting inner chamber of bi-convex cross section and rectangular length section.

6. In a submarine boat, the combination with a hull, a plurality of interior partition walls disposed so as to intersect the hull, to form pressure resisting receptacles of bi-convex cross section and rectangular length section, one of said partition walls intersecting and supporting the other partition walls.

7. In a submarine boat, the combination with the hull of the boat, of a plurality of pressure resisting receptacles arranged therein having bi-convex cross section and rectangular length section, a series of partition walls forming part of the confining walls of the receptacles, one of said walls forming a part of the confining wall of each of the pressure resisting receptacles.

8. In a submarine boat, the combination with an arcuate outer wall, a plurality of arcuate partition walls disposed so as to intersect said outer wall and form pressure resisting receptacles, one of said partitions disposed so as to support the other partition walls.

The foregoing specification signed at Kiel, Germany, this 5th day of July, 1909.

JACOB BÜTTGEN.

In presence of—
JULIUS ROPKE,
KURT BUNDE.

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