

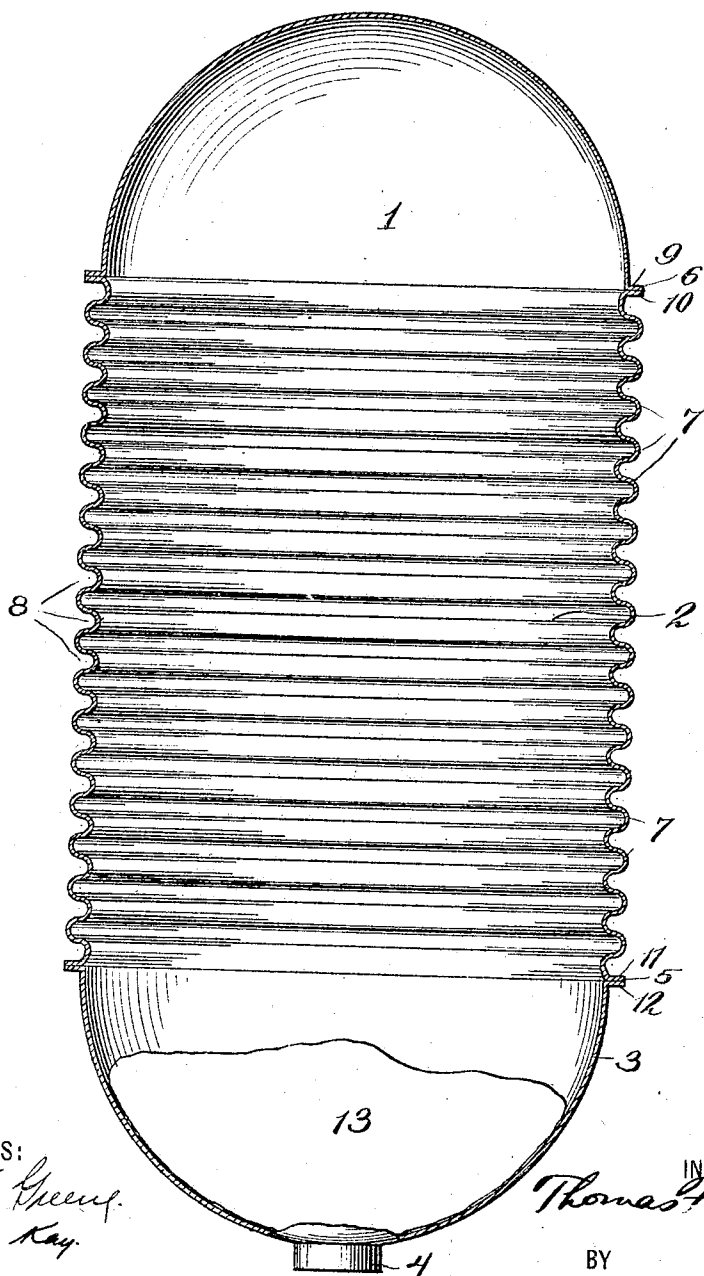
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PATENTED JAN. 30, 1906.

T. F. ROWLAND.

SHELL FOR TORPEDOES OR SIMILAR PURPOSES.

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WITNESSES:

Josephine A. Green.
Jessie B. Kay.

INVENTOR

Thomas F. Rowland

BY

Wineand Wine ATTORNEYS

UNITED STATES PATENT OFFICE.

THOMAS F. ROWLAND, OF NEW YORK, N. Y.

SHELL FOR TORPEDOES OR SIMILAR PURPOSES.

No. 810,983.

Specification of Letters Patent.

Patented Jan. 30, 1906.

Application filed October 21, 1903. Serial No. 177,922.

To all whom it may concern:

Be it known that I, THOMAS F. ROWLAND, a citizen of the United States, and a resident of New York city, in the county and State of New York, have invented certain new and useful Improvements in Shells for Torpedoes or Similar Purposes, of which the following is a specification, taken in connection with the accompanying drawing, which forms part of the

10 same.

This invention relates to shells for torpedoes or other purposes, and relates especially to the construction of a shell in which the body of the shell is suitably stiffened or strengthened by circumferential corrugations, so as to resist external pressure.

The accompanying drawing shows an embodiment of this invention in axial section.

In the embodiment of this invention shown in the drawing the body 2 of the shell is indicated as having a cylindrical form and as being formed of material such as sheet-steel, and which may be suitably welded, if desired, so as to present a uniform cylindrical surface, this body being formed with annular or circumferential corrugations for the purpose of strengthening the same. As indicated, the corrugations in the body have substantially similar ridges and depressions, the ridges 7 in the form indicated being substantially semicircular and the depressions 8 having a similar form. This is not, however, necessary in all cases, and it is apparent that any other form of corrugation may be used in the body which will stiffen the same and strengthen it against external pressure.

Suitable heads are secured to the body of the shell, and these heads may be given the hemispherical form indicated, the head 1 being formed of suitable material, such as sheet-steel, and being joined to the body in any desired way, such as by welding. The head is indicated as being formed with a flange 9, which is welded to a similar annular flange 10 on the upper end of the body to form a uniting-flange at this point, the line of the weld being indicated as 6. The lower head 3 may also be given a hemispherical form and is preferably constructed with the flanged opening 4 for the purpose of giving access to the interior of the shell. The annular flange 12 on this head may be welded to the cooperating flange 11 on the lower end of the body, so that a unit-

ing-flange is formed at this point, the line of weld being indicated as 5.

A suitable explosive charge 13 is diagrammatically indicated within the shell.

When these shells are used for submarine torpedoes, they are anchored in harbors in a considerable depth of water and sometimes are used in close proximity, so that the explosion of one of the torpedoes causes a great external pressure upon the adjacent ones. The torpedo-shells must be so constructed as not to collapse under this pressure, so as to preserve the explosive within them. By forming the bodies of the shells of the corrugated form indicated these bodies are sufficiently stiffened to have substantially the same strength as the hemispherical heads, and at the same time an excessive thickness of metal is not necessary in the bodies of the torpedo-shells. Although corrugating a cylindrical shell does not greatly strengthen it in resisting internal pressure, yet its stiffness and strength in resisting external fluid-pressure is increased greatly out of all proportion to the small additional amount of metal due to its corrugated contour.

Having now disclosed this invention by describing an illustrative embodiment thereof, to the details of which I do not, however, desire to be limited, what I claim as new, and what I desire to secure by Letters Patent, is set forth in the appended claims.

1. A submarine torpedo having an explosive charge and a containing-shell comprising a cylindrical body formed with annular flanges at either end and hemispherical heads formed with annular flanges welded to the flanges on said body and said shell having corrugations extending around the same, said corrugations comprising semicircular ridges and depressions whereby said shell is strengthened to resist external collapsing pressure.

2. A submarine torpedo having an explosive charge and a containing-shell comprising a body and outwardly-curved heads secured to said body, said body having corrugations extending around the same whereby said shell is strengthened to resist collapsing pressure from adjacent explosions.

THOMAS F. ROWLAND.

Witnesses:

LIDA E. ROWLAND,
JANE E. SEXTON