Oct. 7, 1952 L. JONES 2,612,857

TORPEDO HULL

Filed April 26, 1947

FIG. 1.

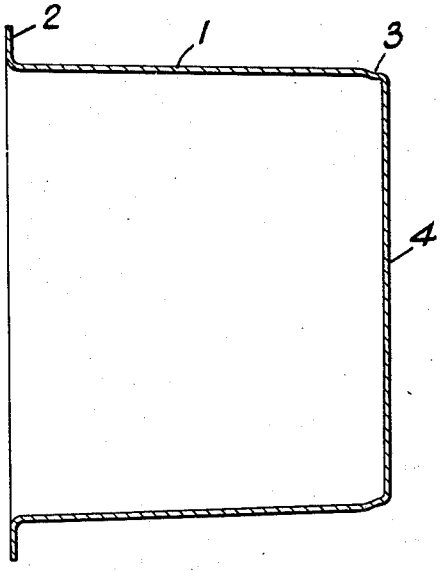


FIG. 2.

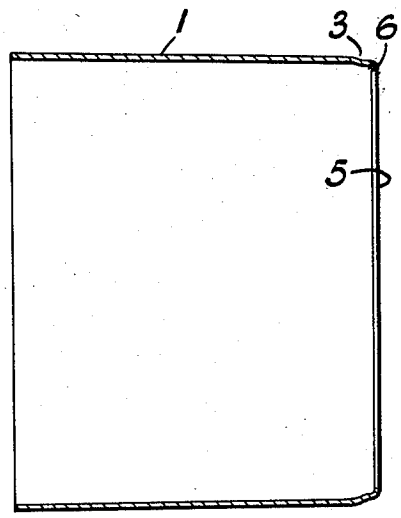
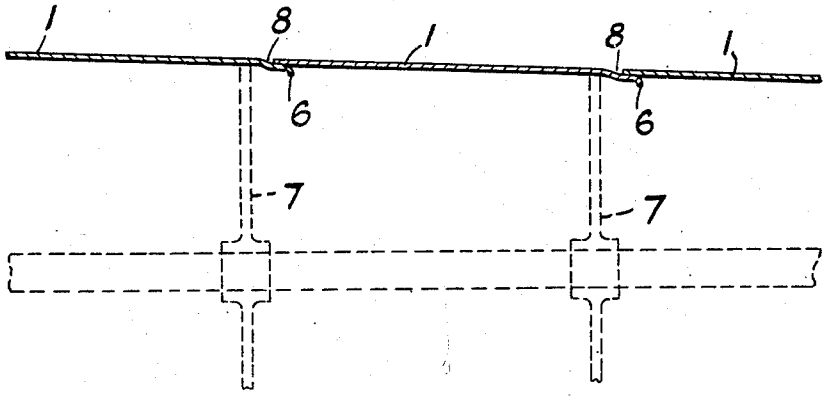


FIG. 3.



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2,612,857

TORPEDO HULL

Lewis Jones, deceased, late of Upwey, Weymouth, England, by William Thomas Wilkinson, executor, Wimbledon, England, assignor to Vickers-Armstrongs Limited, London, England, a company of Great Britain

Application April 26, 1947, Serial No. 744,261
In Great Britain November 25, 1942

Section 1, Public Law 690, August 8, 1946
Patent expires November 25, 1962

1 Claim. (Cl. 114—22)

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The present invention is concerned with the construction of torpedo main hulls and with a method of jointing the various sections, the chief object being to provide a construction of torpedo hull which will lend itself to mass production methods.

The method of constructing a torpedo main hull in accordance with the invention consists in producing a number of metal stampings or pressings of circular cross sectional shape, each pressing having an integrally formed inwardly directed stiffening flange, the pressings being of such dimensions that they can be assembled together in overlapping end to end relationship, assembling the various pressings together and securing them together by means of a welding process.

In order that the said invention may be clearly understood and readily carried into effect the same will now be more fully described with reference to the accompanying drawings, in which:

Figure 1 is a sectional view of one of the stampings or pressings.

Figure 2 is a similar view of the pressing after it has been machined.

Figure 3 is a sectional view illustrating the method of assembly on a removable assembly jig.

Each section 1 employed in the construction of the main hull is pressed from sheet metal, the various sections being in the form of cylindrical or conical pressings each initially formed at one end with a peripheral flange 2, the opposite end being left solid, each section therefore being of substantially cup shape and having an outwardly directed flange or lip. The closed end of the pressing which is to enter the open end of the next adjacent section is slightly reduced in diameter as at 3 so that the outer surfaces of adjacent sections will lie flush when the sections are united together.

The section which has been initially formed with a flange at one end and closed at the opposite end is then machined, and assumes the form shown in Figure 2, the flange being removed and the part 3 of reduced diameter machined back to the correct diameter for mating with the adjacent section, the solid end 4 being then trepanned out as at 5 to a diameter which will leave an inwardly directed lip or flange 6 of a sufficient width to ensure adequate stiffness of the section.

The prepared sections are then erected on an

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assembly fixture of jig 7 which ensures concentric alignment of the sections, the sections being assembled together with their ends in overlapping relationship and tacked together by wide spaced spot welding. The assembly fixtures is then removed and each joint seam welded by suitable means preferably automatic at a suitable position between the mating ends of adjoining sections. This seam welding, in addition to rigidly securing the sections together, also forms a watertight seal between the outside and the inside of the hull.

To produce a flush continuity of hull contour and prevent seepage of water or moisture between the mating joint surfaces, which would result in corrosion, the depression 8 between the extreme edge of each section and the adjacent section is filled flush with the hull contour and the seam between the sections caulked with a synthetic rubber or other plastic or hard filling substance.

It will be appreciated from the foregoing description that the hull sections are completely machine made and therefore suitable for mass production methods whilst the thickness of the different section can be varied to suit, so as to get uniform strength throughout the length of the hull. Furthermore each section incorporates its own radial stiffener whilst assembly and welding of the various sections together are operations likewise suitable for mass production methods.

What is claimed is:

A method of constructing a torpedo main hull of circular cross-section, consisting in pressing or stamping a plurality of sheet metal cup-like bodies each flanged outwardly at the rim of its open end and deformed at its periphery at its other end into a relatively shallow axial plug part merging into the closed base end of the body and adapted to nest snugly in the open end of an adjacent one of said bodies, removing said rim flange and machining back said plug part for mating with the adjacent body, removing a concentric part of the base of each cup-like body so as to leave an inwardly turned stiffening flange, assembling in co-axial relationship the said sheet metal stampings or pressings, mating the plug end parts into the other end parts of the pressings or stampings to produce a tubular hull structure uninterrupted from end-to-end, and thereupon

welding the mating parts together to form a self-sustaining unitary tubular shell.

WILLIAM THOMAS WILKINSON,
Executor of the Last Will and Testament of Lewis Jones, Deceased.

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