

#15423 Iron

# LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

## ENGINEER SURVEYOR'S CERTIFICATE & REPORT.

### ENGINES.

Rev 25/11/75

Description *Compound, Inverted, Direct Acting*  
Made by *Messrs Denny, Dumbarton*  
In the year *1875*  
Present condition *New*  
Diameter of cylinder *One 47" & one 82"*  
Length of stroke *48"*  
No. of revolutions per minute *Max. 68.*  
Point of cut off *Two tenths up to seven tenths*  
Paddle, or Screw *Screw*  
Nominal Horse Power *400*  
Diameter of screw, or of paddle wheel *16" 5"*  
Pitch of screw *22" 0"*  
No. of blades, *4* total surface *74 ft<sup>2</sup>*  
No. of bilge pumps *2* and size *4 3/4" x 24" stroke*  
Do they pump from each compartment *Yes*  
Is there provision made for pumping from the wings of the stoke hold *Yes*

Are all the bilge suction pipes fitted with roses *Yes*  
What vacuum and steam gauges are there attached to the engines and boilers *One vacuum, one steam & one compound, in Eng. Room, & one to each boiler in stoke hold*  
No. of feed pumps *2* and sizes *4" x 24" stroke*  
Description and size of Donkey Engine... *Inverted double acting 5" x 10" stroke*  
Will it feed the boilers, pump from the bilges, and pump on deck *Yes*  
Can it be driven by steam from a separate boiler *Yes*  
No. of bilge injections *One* and sizes *6" connected to circulating pumps*  
Are they fitted with non return valves *Yes*  
Is there a hand pump in the engine room *Yes*  
Can it be worked by the main engines *No*  
Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

### CONNECTIONS ON HULL.

Are all connections with the sea direct on the skin of the ship *Yes*  
Are they Kingston valves or common cocks *Screw down valves & cocks*  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates *Yes, they are all fitted above turn of bilge*  
Are the discharge pipes above or below the deep water line *Above*  
Are they each fitted with a discharge valve on the plating of the vessel *Yes*

Are any pipes carried through the bunkers *Yes, bilge discharge pipes*  
If so state how protected *Carried up through bunkers & they are cast iron*  
When was the stern tube, propeller, screw shaft, and all connections examined in dry dock *On ship previous to being launched*  
How are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Sontay sea & bilge suction cock has single ported plug, & cannot be turned to both at same time*  
Have the bilge suctions non-return valves fitted or not *No*

### BOILERS.

Number *Four, Round Horizontal, with 3"*  
Description *Surfaces in each, fire & throat ships*  
Made by *Messrs Denny, Dumbarton*  
In the year *1875*  
Present condition *New*  
When last extensively repaired *—*  
Working pressure *65 lbs*  
When tested by hydraulic pressure *Not ascertained*  
What pressure tested *130 lbs*  
Is there a super-heating apparatus *Yes, Round Vertical*  
Describe it *with single flue*  
Can each boiler be worked separately *Yes*  
Is each boiler fitted with a separate steam gauge *Yes*

Can the super-heater be shut off and the boilers worked separately *No*  
No. of safety valves on each boiler *Two*  
Description and area of each safety valve *Direct Spring loaded 15.9 area*  
No. of square feet of fire-grate surface in each boiler *52 ft<sup>2</sup>*  
Is there a separate blow off and brine cock on each boiler, independent of those on the vessel's skin *Yes*  
Is the screw shaft tunnel water tight and fitted with a sluice door on bulkhead *Yes*  
Are all pipes, cocks, and roses in connection with these boilers accessible to the engineer at all times *Yes, they are fitted above turn of bilge*

*S. Denny & Co.* Manufacturer.

I hereby certify that the whole of the above Machinery and Boilers of the Iron (or Wood) Screw (or Paddle) Steam Vessel *"Torunda"* owned by *Duncan McNeill & Others* of the Port of *Glasgow* of *1943* Tons Register, and *400* Nominal Horse Power, have been carefully inspected and examined by *Me* at *Dumbarton* and found to be at this date, viz., *Nov. 12<sup>th</sup>* 18*75* in good order and safe working condition.

*James Morrison*  
Engineer Surveyor to Lloyd's Register of Shipping.