1943 Iron

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Rec 25/10/77

Description *Compound Inverted Direct acting*
Made by *Messrs Barclay Curle & Coy*
When *1877* At *Glasgow*
Diameter of cylinders *29" & 49"* Length of stroke *36"*
No. of revolutions per minute *75*
Point of cut off *Variable*
Diameter of screw shaft *9"*
Diameter of crank shaft journals *9 ½"*
Diameter of screw, or of paddle wheel *12 ft*
Pitch of screw *15' 6"*
No. of blades *Four* Total surface *43 ft*
No. of bilge pumps *One* and sizes *4 ¼" dia x 18" Stroke*
Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*
No. of feed pumps *One* and sizes *4 ¼ dia x 18" Stroke*
What gauges are there attached to the engines and boilers ... *Three Steam One Vacuum & One Compound.*
Description and size of Donkey Pumps ... *Double acting 10" Lift & 5" & 10" pump*
Where do they pump from .... *From the Sea Bilge & Hotwell 1*
No. of bilge injections *Two* and sizes *One 4" & One 2 ½"*
Are they connected to air, or circulating pumps *To Circulating & Air*
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*

MAIN BOILERS.

Number *Two* Description *Round Horizontal*
Made by *Barclay Curle & Coy*
When *1877* At *Glasgow*
Working pressure *60 lbs*
Tested by hydraulic pressure to *120 lbs*, Date *July 11th/77*
Description of super-heating apparatus .... *Round Vertical with Single Tube*
Can each boiler be worked separately *Yes*

Can the super-heater be shut off and the boilers worked separately *No*
Description and area of safety valves on each boiler .... *Two Direct Spring each 9.62" Area*
No. of square feet of fire-grate surface in each boiler *34 ft*
Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin *Yes*
Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times. .... *Yes*

DONKEY BOILER.

Description *Round Horizontal Tubular*
Where fixed *On Main Deck*
Working pressure *40 lbs*

Tested by hydraulic pressure to *80 lbs*, Date *Sept 24th/77*
Description and area of safety valves *One Direct Weight 7" area*
No. of square feet of fire grate *11 ft*

PIPES, COCKS, AND CONNECTIONS.

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 .... *All Cocks have now been removed from flat of Bottom & new ones fitted on upper 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*

What pipes are carried through the bunkers *Bilge pipes to forehold*
How are they protected *By wood casing*
When were the stern tube propeller, screw shaft, and all connections examined in dry dock *Sept 21st 1877*
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Yes*
Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead *Yes*

Barclay Curle & Co Manufacturer.
per S.G.

I hereby certify that the whole of the above are correct particulars of the Machinery and Boilers of the Iron (or Wood) Screw (or Paddle) Steam Vessel *"Cumberland"* owned by *Hull Leith & Hamburg Steam Ntc Coy* of the Port of *Leith* of *713* Tons Register, and *108* Registered Horse Power, and that they have been carefully inspected and examined by me at *Glasgow* and found to be at this date, viz., *October 16th 1877* in good order and safe working condition.

Amount of Fee for Survey ... ... £ *5 . 8 .* *Paid*

(Travelling Expenses, if any, £ *1 . 1 . 0*)

James Mollison
Engineer Surveyor to Lloyd's Register of Shipping.