

REPORT ON MACHINERY.

3158

To: 3158
 No. in Survey held at Belfast
 Date, first Survey 26th Nov/84 Last Survey Aug 22 1885
 eg. Book.
 on the S.S. Lady Arthur Hill
 Master D. Dove Built at Belfast By whom built M. McManis Lewis & Co. Ltd. When built 1883
 Engines made at Belfast By whom made M. McManis Lewis & Co. Ltd. when made 1883
 Meters made at " By whom made " when made 1883
 Registered Horse Power 56 Owners East Downshire Steam Ship Co. Ltd. Port belonging to Belfast

GINES, &c.—

Description of Engines Compound Inverted Surface Condensing
 Diameter of Cylinders 19 x 36 Length of Stroke 30 No. of Rev. per minute 85 Point of Cut off, High Pressure 1/2 Low Pressure 1/2
 Diameter of Screw shaft 6 3/4 Diam. of Tunnel shaft 6 1/2 Diam. of Crank shaft journals 6 3/4 Diam. of Crank pin 6 3/4 size of Crank webs 7 3/4 x 4 3/4
 Diameter of screw 9-6 Pitch of screw 14-3 No. of blades 4 state whether moveable yes total surface 28 square feet
 No. of Feed pumps One diameter of ditto 3 dia Stroke 13 1/2 Can one be overhauled while the other is at work yes
 No. of Bilge pumps One diameter of ditto 3 dia Stroke 13 1/2 Can one be overhauled while the other is at work yes
 Where do they pump from engine room fore hold and fore peak
 No. of Donkey Engines One Size of Pumps 3 dia x 6 Stroke Where do they pump from engine room fore hold and fore peak also from sea fore peak tank and after peak tank
 Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes Are the sluices on Engine room bulkheads always accessible yes
 No. of bilge injections One and sizes 3 dia Are they connected to condenser, or to circulating pump Cir pump
 Are the pumps worked by levers from after engine
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both Valves and Cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the discharge pipes above or below the deep water line above
 Are they each fitted with a discharge valve always accessible on the plating of the vessel yes Are the blow off cocks fitted with a spigot and brass covering plate yes
 Are the pipes carried through the bunkers none How are they protected yes
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times yes
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges yes
 Were stern tube, propeller, screw shaft, and all connections examined in dry dock before launching new vessel
 Is screw shaft tunnel watertight no tunnel and fitted with a sluice door yes worked from yes

BOILERS, &c.—

No. of Boilers One Description Cylindrical Multi-tube Whether Steel or Iron Steel
 Working Pressure 83 lbs Tested by hydraulic pressure to 170 lbs Date of test 2nd July 1883
 Description of superheating apparatus or steam chest none fitted
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately yes
 Area of square feet of fire grate surface in each boiler 37.4 Description of safety valves Spring (Cochran's) No. to each boiler Two
 Area of each valve 11.04 sq in Are they fitted with easing gear yes No. of safety valves to superheater yes area of each valve yes
 Are they fitted with easing gear yes Smallest distance between boilers and bunkers or woodwork 7" Diameter of boilers 11-10"
 Length of boilers 9-0" description of riveting of shell long. seams double butt strap, lap joint circum. seams lap joint Thickness of shell plates 3/4"
 Diameter of rivet holes 15/16 whether punched or drilled drilled pitch of rivets 3 3/4" Lap of plating double strap 1 1/2 wide
 Percentage of strength of longitudinal joint 71.1 working pressure of shell by rules 93.8 lbs size of manholes in shell 15 x 12
 No. of compensating rings 5 x 7/8 No. of Furnaces in each boiler Two
 Side diameter 3-3" length, top 5-6" bottom 8-3" thickness of plates 1/2" description of joint double butt strap, lap joint if rings are fitted yes
 Greatest length between rings yes working pressure of furnace by the rules 95.4 lbs combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"
 No. of stays to ditto, sides 9 1/2 x 9 back 9 1/4 x 9 top 9 1/2 x 9 1/2 If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 85 lbs
 Diameter of stays at smallest part 1 1/4" working pressure of ditto by rules 86.3 lbs end plates in steam space, thickness 5/8"
 No. of stays to ditto 13 3/4 x 13 how stays are secured double nut and washer working pressure by rules 84.6 lbs diameter of stays at smallest part 2"
 working pressure by rules 85.4 lbs Front plates at bottom, thickness 9/16" Back plates, thickness 9/16"
 Greatest pitch of stays about 11" working pressure by rules 93.7 lbs Diameter of tubes 3" pitch of tubes 4 1/4 x 4 1/4 thickness of tube plates, front 5/8" back 5/8" how stayed stay tubes pitch of stays 2 3/4 x 12 1/4 width of water spaces 1 1/4 between tubes
 Diameter of Superheater or Steam chest yes length yes thickness of plates yes description of longitudinal joint yes diam. of rivet holes yes
 Ship of rivets yes working pressure of shell by rules yes diameter of flue yes thickness of plates yes If stiffened with rings yes
 Distance between rings yes working pressure by rules yes end plates of superheater, or steam chest; thickness yes how stayed yes
 Superheater or steam chest; how connected to boiler yes

DONKEY BOILER—

Description *Cylindrical Multi-tubular*

Made at *Belfast* by whom made *Wm. Hume Lewis & Co. L^{ts}* when made *2/7/83* where fixed *on deck*

Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *106* fire grate area *9 1/2 sq ft* description

valves *Spring (Cockburn)* No. of safety valves *One* area of each *7.07 sq in* fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *no* diameter of donkey boiler *5-6* length *6-6* description of riveting *long seams, lap, dble riv^d*

Thickness of shell plates *3/8 (Steel)* diameter of rivet holes *3/4* whether punched or drilled *drilled* pitch of rivets *2 3/8* lap of plating *4 1/2*

percentage of strength of joint *68 1/4* thickness of ~~cross~~ plates *1/2* stayed by *Stay 1 1/2 dia x 12 ft*

Diameter of furnace, top *27 3/4* bottom *—* length of furnace *4-6* thickness of plates *3/8* description of joint *dble butt shop, 3/2 riv^d*

Thickness of furnace ~~cross~~ plates *—* stayed by *—* working pressure of shell by rules *77.7 lbs*

Working pressure of furnace by rules *100.9 lbs* diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:—*2 Connecting rod, top end, bolts and nuts, 2 do bottom end, bolts and nuts, 2 main bearing bolts, 1 set-Coupling bolts, 1 set-feed and tiege pump valves, 1 set of Piston Springs, a quantity of assorted bolts and nuts and pieces of iron.*

The foregoing is a correct description,

Wm. Hume Lewis & Co. L^{ts} Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)

*Material and Workmanship all good and Satisfactory.
The Machinery and Boilers of this vessel are in good order and safe working condition and, in my opinion, eligible to have the certification of Lloyd's C. with a date, recorded in the Society's Register-Book.*

It is submitted that this vessel is eligible to have the certification + Lloyd's C. 8.85. recorded

24/8/85

The amount of Entry Fee .. £ *1* : *0* : *0* received by me, *[Signature]*

Special .. £ *0* : *0* :

Donkey Boiler Fee .. £ *—* : *—* :

Certificate (if required) .. £ *22* : *0* : *18*

To be sent as per margin.

(Travelling Expenses, if any, £ *7-17-0*)

Committee's Minute

TUESDAY 25 AUGUST 1885

Muscau Ritchie
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.