

REPORT ON MACHINERY.

3158

No. in Survey held at Belfast Date, first Survey 26th Nov 1884 Last Survey Aug 22 1885
 eg. Book. 124.9
 on the S.S. Lady Arthur Hill Tons 241.23
 Master D. Dove Built at Belfast By whom built W. McNeill Lewis & Co. Ltd. When built 1883
 Engines made at Belfast By whom made W. McNeill 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. Port belonging to Belfast

ENGINES, &c.—
 Description of Engines Compound Inverted Surface Condensing
 Diameter of Cylinders 19 7/16 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 ✓
 No. of Bilge pumps One diameter of ditto 3 dia Stroke 13 1/2 Can one be overhauled while the other is at work ✓
 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 Circ 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 ✓
 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 the screw shaft tunnel watertight no tunnel and fitted with a sluice door ✓ worked from ✓

BOILERS, &c.—
 No. of Boilers One Description Cylindrical Multi-tubular 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 ✓ Can the superheater be shut off and the boiler worked separately ✓
 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
 Diameter of each valve 1 1/4 Are they fitted with easing gear yes No. of safety valves to superheater ✓ area of each valve ✓
 Are they fitted with easing gear ✓ 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 & double butt Thickness of shell plates 3/4
 Diameter of rivet holes 15/16 whether punched or drilled drilled pitch of rivets 3/4 Lap of plating double butt 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 stiffened by angle iron
 Greatest length between rings ✓ 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 butt strap, lap joint 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 1/2 width of water spaces 1/4 between tubes
 Diameter of Superheater or Steam chest ✓ length ✓ thickness of plates ✓ description of longitudinal joint ✓ diam. of rivet holes ✓
 Size of rivets ✓ working pressure of shell by rules ✓ diameter of flue ✓ thickness of plates ✓ If stiffened with rings ✓
 Distance between rings ✓ working pressure by rules ✓ end plates of superheater, or steam chest; thickness ✓ how stayed ✓
 Superheater or steam chest; how connected to boiler ✓



DONKEY BOILER— Description *Cylindrical Multi-tubular*
 Made at *Belfast* by whom made *W. Mainie Lewis & Co. L^{ts}* when made *2/7/85* where fixed *on deck*
 Working pressure *60 lbs* tested by hydraulic pressure to *170 lbs* No. of Certificate *106* fire grate area *9 1/2 sq ft* description
 valves *Spring (Cock burners)* 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, double rivet*
 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*
 per centage of strength of joint *68.4* thickness of *end* plates *1/2* stayed by *Stay 1 1/2 dia x 12 pitch*
 Diameter of furnace, top *27 3/4* bottom *—* length of furnace *4-6* thickness of plates *3/8* description of joint *double butt shop, 3 rivet*
 Thickness of furnace *—* 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 Mainie 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 Register with a date recorded in the Society's
 Register Book.*

*It is submitted that this
 vessel is eligible to have the
 certification of Lloyd's Register
 recorded.
 24/8/85*

[Large blue signature]

The amount of Entry Fee .. £ 7 : 0 : 0 received by me,
 Special .. £ 0 : 0 : 0
 Donkey Boiler Fee .. £ - : - : -
 Certificate (if required) .. £ - : - : - 22 P. 18 P. 5
 To be sent as per margin.

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

Committee's Minute TUESDAY 25 AUGUST 1885

