

REPORT ON MACHINERY.

77

No. 15481
 No. in Survey held at Sunderland
 Reg. Book. on the S.S. "Lomas"
 Port of Sunderland
 Date, first Survey 19th Decr 1890 Last Survey 28th Sept 1890
 Received at London Office 14th Mar 1891
 Number of Visits 19
 Master J. R. Hichison Built at Middlebro' By whom built Kaylton Dixon & Co
 Engines made at Sunderland By whom made North Eastern Marine & Eng. Co When built 1890
 Boilers made at Sunderland By whom made North Eastern Marine & Eng. Co when made 1890
 Registered Horse Power 199 200 Owners A. Holland & Co
 Port belonging to London

NGINES, &c.—
 Description of Engines Triple compound, three cranks
 No. of Cylinders 3
 Length of Stroke 39" Rev. per minute 60 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke
 Diameter of Screw shaft 10 3/4" Diam. of Tunnel shaft 10 3/4" Diam. of Crank shaft journals 10 3/4" Diam. of Crank pin 10 3/4" size of Crank webs 4" x 16"
 Pitch of screw 15-3" No. of blades 4 state whether moveable not total surface 55 sq ft
 Diameter of Feed pumps 2 diameter of ditto 3 1/2" Stroke 21" Can one be overhauled while the other is at work yes
 Diameter of Bilge pumps 2 diameter of ditto 4" Stroke 21" Can one be overhauled while the other is at work yes
 Where do they pump from fore hold, engine room, after well & sea and tanks
 Size of Pumps 8" x 9" & 3 1/2" x 5" Where do they pump from tanks, sea, not well
 Are the bilge suction pipes fitted with roses yes Are the roses always accessible yes Are the sluices on Engine room bulkheads always accessible yes
 Are the pumps worked by levers on intermediate engine Are they connected to condenser, or to circulating pump circulating pumps
 Are the connections with the sea direct on the skin of the ship Are they Valves or Cocks both
 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
 What pipes are carried through the bunkers none How are they protected none
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock new vessel
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from engine room top platform

OILERS, &c.—
 No. of Boilers 2 Description Ordinary marine type Material Steel excepting tubes Letter (for record) S
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 1-3-90 No of certificates 1052
 Description of superheating apparatus or steam chest none
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately no superheater
 Area of square feet of fire grate surface in each boiler 45 sq ft Description of safety valves direct spring No. to each boiler 2
 Area of each valve 7.0 sq ft 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 15" Diameter of boilers 13-4"
 Length of boilers 9-9" description of riveting of shell long. seams double butt strap circum. seams double rivet Thickness of shell plates 1 1/2"
 Diameter of rivet holes 1 1/8" whether punched or drilled drilled pitch of rivets 4" x 3 1/2" Lap of plating 16" straps
 Percentage of strength of longitudinal joint 83-90% working pressure of shell by rules 162 lbs size of manholes in shell 16" x 13"
 Diameter of compensating rings 8" x 1 1/2" No. of Furnaces in each boiler 3 Description of Furnaces plain
 Inside diameter 3-0" length 6 feet thickness of plates 3/4" description of joint welded if rings are fitted no
 Greatest length between rings — working pressure of furnace by the rules 183 lbs combustion chamber plating, thickness, sides 9/16" back 9/16" top 9/16"
 Diameter of stays to ditto, side 2" x 4 1/2" back 2" x 4 1/2" top 2" x 4 1/2" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 144 lbs
 Diameter of stays at smallest part 1-33 working pressure of ditto by rules 144 lbs end plates in steam space, thickness 1 1/2"
 Diameter of stays to ditto 15 1/2" x 15 1/2" how stays are secured nuts working pressure by rules 160 lbs diameter of stays at smallest part 2 7/8"
 Working pressure by rules 161 lbs Front plates at bottom, thickness 3/4" Back plates, thickness 1/8"
 Greatest pitch of stays 1 1/2" working pressure by rules 144 lbs Diameter of tubes 3 1/2" pitch of tubes 4 1/2" x 4 1/2" thickness of tube 1/2"
 Diameter of plates, front 13" back 3 1/4" how stayed stay tubes pitch of stays 9" x 9" width of water spaces 1 1/4"
 Diameter of Superheater or Steam chest none length — thickness of plates — description of longitudinal joint — diam. of rivet holes —
 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 —
 Total heating surface 3060 sq ft Superheater or steam chest; how connected to boiler —

Steel
DONKEY BOILER— Description Single ended cyl^{dr} multitubular with 2 furnaces
Made at Stockton by whom made Riley Bros. when made 22.3.90 where fixed on level of deck
Working pressure 80 lbs. tested by hydraulic pressure to 160 lbs. No. of Certificate 1009 fire grate area 20 sq. feet description of safety
valves Spring No. of safety valves 2 area of each 4.0 sq. in. if fitted with easing gear Yes if steam from main boilers can
enter the donkey boiler No diameter of donkey boiler 8' 6" length 8' 0" description of riveting Long Lap Double
Thickness of shell plates 2 1/16" diameter of rivet holes 1 5/16" whether punched or drilled Punched pitch of rivets 3" lap of plating
per centage of strength of joint 68 1/2% thickness of crown plates 5/8" stayed by 1 1/2" 8 1/2" long 4 1/2" pitch 13 1/4" x 13"
Diameter of furnace, top 27 1/8" bottom 27 1/8" length of furnace 7' 0" thickness of plates 1/16" description of joint Lap Single
Thickness of furnace crown plates 1 5/32" stayed by 1 1/2" 8 1/2" long 4 1/2" pitch 8" x 8" working pressure of shell by rules 80 lbs.
Working pressure of furnace by rules 80 lbs. diameter of tubes 3 1/2" thickness of plates 1/2" thickness of water tubes plates

SPARE GEAR. State the articles supplied:— Top and bottom end bolts and nuts. two main
bearing bolts and nuts. one set of coupling bolts and nuts. feed and
bilge pump valves. piston springs. bolts nuts and washers.

The foregoing is a correct description,
North Eastern Marine Engineering Co. Ltd.
Manufacturers of main engines and boilers

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

The main steam pipes have been tested by hydraulic pressure
to 320 lbs. The machinery of the above mentioned Vessel has been
constructed under special survey. the material and workman-
ship are good and efficient and the engines when tried under
steam worked satisfactorily. The vessel has proceeded to Middlesbrough
where the following work requires to be done, viz: "Sluices to fit on
"bulkheads, suction to connect to engine room tank, after well
"fore hold, and engine room. Donkey boiler fitted with mountings
"and tried under steam". When this work is completed to the
satisfaction of a Surveyor to this Society, in my opinion the vessel
will be eligible for the notification in the Register Book of
+ LMC 5-90

The above mentioned work has been satisfactorily
Completed.

Wm. Austin

Middlesbrough 17 May 1890

It is submitted that this vessel is
eligible to have + L.M.C. 5-90 recorded

W.A.
21-5-90

The amount of Entry Fee .. £ 2 : 0 : - received by me,

Special .. £ 29 : 14 : -

Donkey Boiler Fee .. £ : : -

Certificate (if required) .. £ : : - 20.5 1890

To be sent as per margin.

(Travelling Expenses, if any, £ : : -)

Committee's Minute FRI 23 MAY 1890

+ LMC 5/90

Paul Salmon
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.