

REPORT ON MACHINERY.

345
MARCH 2 1891

No. 345 Port of Middlesbrough on Tees Received at London Office
 No. in Survey held at Stockton on Tees Date, first Survey 24th Oct. 1890 Last Survey 23rd Feb. 1891
 Reg. Book. (Number of Visits 38)

on the Screw Steamer "Sledmere" Tons } Gross 1969.66
 Master Padgett Built at Stockton By whom built Richardson, Duex & Co When built 1891 } Net 1284.8
 Engines made at Stockton By whom made Blair & Co^y Limited when made 1891
 Boilers made at Stockton By whom made Blair & Co^y Limited when made 1891
 Registered Horse Power 150 Owners G. R. Anderson & Co^y Port belonging to Hull
Sanctuary HP 145
Rule 176

ENGINES, &c.—

Description of Engines Inverted, Direct Acting, Triple Expansion No. of Cylinders Three
 Diam. of Cylinders 20 1/2" - 33 1/2" - 55" Length of Stroke 36" Rev. per minute 65 Point of Cut off, High Pressure 5 Low Pressure 5
 Diameter of Screw shaft 11" Diam. of Tunnel shaft 10 1/4" Diam. of Crank shaft journals 10 1/2" Diam. of Crank pin 1 1/4" size of Crank webs 6 1/2" x 15 1/2"
 Diameter of screw 14.6" Pitch of screw 15" 0" No. of blades 4 state whether moveable to total surface 58 sq. ft.
 No. of Feed pumps 2 diameter of ditto 2 1/4" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 diameter of ditto 3 1/2" Stroke 26" Can one be overhauled while the other is at work Yes
 Where do they pump from Main & After Holds, Engine room, Tunnel well, after peak, Ballast tanks Sea.
 No. of Donkey Engines Two Size of Pumps (4 x 1/2") (8 x 9") Where do they pump from Feed - Sea, Hotwell Tanks.
Ballast - Sea, Ballast tanks, Main & After Holds, Engine room, Tunnel well and after peak.
 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 1 and sizes 6" Are they connected to condenser, or to circulating pump Circulating pump.
 How are the pumps worked By levers from the crosshead of the After Engine.
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stowchold 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 ✓
 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, before launching.
 Is the screw shaft tunnel watertight ✓ and fitted with a sluice door Yes worked from Top platform in Eng. room.

BOILERS, &c.—

No. of Boilers Two Description by 10" Multi Single Ended Material Steel Letter (for record) S
 Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 7th December 1891. (N^o 141)
 Description of superheating apparatus or steam chest None Heating Surface 2560 sq. feet.
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately ✓
 No. of square feet of fire grate surface in each boiler 29 sq. ft. Description of safety valves Direct Spring No. to each boiler Two
 Area of each valve 4.9 sq. ins. 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 on woodwork 16" Diameter of boilers 11' 10"
 Length of boilers 10' 3" description of riveting of shell long. seams SB. Sharp Tackle circum. seams Lap Double Thickness of shell plates 1 1/8"
 Diameter of rivet holes 1 1/8" 1 1/8" whether punched or drilled Drilled pitch of rivets 7 1/8" 4 1/2" Lap of plating 5 1/2" 5 1/2"
 Percentage of strength of longitudinal joint 85 working pressure of shell by rules 165 lbs. size of manholes in shell 16" x 12"
 Diameter of compensating rings 28" x 24" x 1 1/8" No. of Furnaces in each boiler 2 Description of Furnaces Corrugated
 Inside diameter 3' 5" length 6' 6" thickness of plates 9 1/8" description of joint Bridged if rings are fitted ✓
 Greatest length between rings ✓ working pressure of furnace by the rules 140 lbs. combustion chamber plating, thickness, sides 9 1/8" back 9 1/8" top 9 1/8"
 Height of stays to ditto, sides 1/4" x 1/4" back 1/2" x 1/2" top 1/4" x 1/4" If stays are fitted with nuts or riveted heads Auto working pressure of plating by
 rules 140 lbs. Diameter of stays at smallest part 1 1/2" working pressure of ditto by rules 146 lbs. end plates in steam space, thickness 1 1/8"
 Height of stays to ditto 16 3/4" x 16 3/4" how stays are secured Double nuts & washers working pressure by rules 165 1/2 lbs. diameter of stays at
 smallest part 2 5/8" working pressure by rules 141 lbs. Front plates at bottom, thickness 1" Back plates, thickness 1"
 Test pitch of stays 12 1/4" working pressure by rules 140 lbs. Diameter of tubes 3 1/4" pitch of tubes 4 5/8" x 4 5/8" thickness of tube
 plates, front 1" back 7/8" how stayed Stay tubes pitch of stays 14 1/2" x 9 1/4" width of water spaces 1 3/8" 7 5/8"
 Diameter of Superheater or Steam chest ✓ length ✓ thickness of plates ✓ description of longitudinal joint ✓ diam. of rivet holes ✓
 Diameter 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 *Vertical multitubular. (Blakes patent 1*
 Made at *Manchester* by whom made *James Blake* when made *14.10.90* where fixed *on level of deck*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *944* fire grate area *18 sq. ft.* description of safety
 valves *Direct Spring* No. of safety valves *one* area of each *11.49 sq. in.* if fitted with easing gear *Yes* if steam from main boilers can
 enter the donkey boiler *No* diameter of donkey boiler *6' 4"* length *14' 0"* description of riveting *Lap Double. Cu 7/8"*
 Thickness of shell plates *1/16"* diameter of rivet holes *1 1/16"* whether punched or drilled *Drilled* pitch of rivets *2 1/4"* lap of plating *4"*
 per centage of strength of joint *70* thickness of crown plates *1/16"* stayed by *Hemispherical*
 Diameter of furnace, top *2' 3"* bottom *4' 4"* length of furnace *3' 3"* thickness of plates *1/16"* description of joint *Lap - Single*
 Thickness of ~~furnace~~ crown plates *5/8"* stayed by *lugged stays 3/8" thick* working pressure of shell by rules *85 lbs*
 Working pressure of furnace by rules *90 lbs* diameter of uptake *-* thickness of plates *-* thickness of water tubes *-*

SPARE GEAR. State the articles supplied:— *1 Propeller and shaft, 2 top half eccentric straps
 liners, 2 safety valve springs, 1 set of air pump valves, 1 set circulating
 pump valves, 1 set feed & bilge pump valves, 2 main bearings both nuts, 2 crank
 bolts nuts, 2 cross head bolts & nuts, 1 set coupling bolts, 1 set piston springs. Bolt & iron*
The foregoing is a correct description,
Geo Blake & Co Ltd Manufacturer of main engines & boilers.
G. Blake

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

*An evaporator is fitted for supplying fresh water to boiler.
 The engines and boilers of this vessel have been constructed
 under special survey; and the materials and workmanship
 are of the best description. The main steam pipes have
 been tested by hydraulic pressure to 320 lbs per sq. inch as required
 by the Rules. When fitted on board the engines and boilers
 were examined under steam and found to work satisfactorily.
 The machinery throughout is now in good and efficient
 condition, and eligible in my opinion to have the
 notation **L.M.C. 2, 91** marked in the Society's Register
 Book.*

Large blue handwritten signature or initials.

*It is submitted that this
 vessel is eligible to have
 + L.M.C. 2-91 recorded
 W.A.
 2-3-91*

The amount of Entry Fee .. £ 2 : - : - received by me,
 Specie .. £ 26 : 8 : -
 Donkey Boiler Fee .. £ : :
 Certificate (if required) .. £ : : 26.2.1891
 To be sent as per margin.
 (Travelling Expenses, if any, £)

Wm R Austin
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUES 3 MARCH**
th hrb. 2/91.