

REPORT ON MACHINERY.

26818 Sun

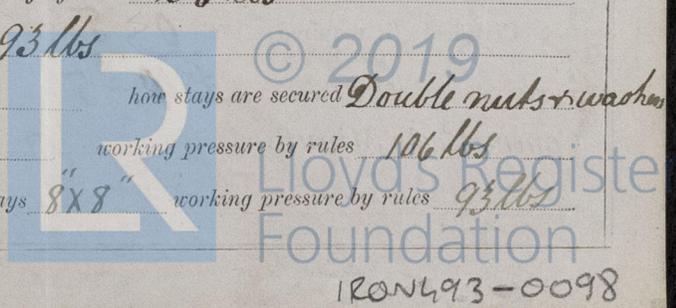
No. 494 (Received in London Office 14/6/80)
 No. in Survey held at Sunderland Date, first Survey Oct. 7th 1879 Last Survey April 30th 1880
 Reg. Book. 475 on the Screw Steamer Seaton Tons 632
 Master Thomas Shaw Built at Newcastle When built 1854
 Engines made at Sunderland By whom made North Eastern Co. Coy when made April 1880
 Boilers made at Sunderland By whom made R. E. Engineering Coy when made April 1880
 Registered Horse Power 40 Owners Mr L Wood Port belonging to Sunderland

ENGINES, &c.—

Description of Engines Inverted compound & surface condensing
 Diameter of Cylinders 23" & 44" Length of Stroke 2-6" No. of Rev. per minute 42 Point of Cut off, High Pressure 15" Low Pressure 15"
 Diameter of Screw shaft 4 1/4" Diameter of Tunnel shaft none Diameter of Crank shaft journals 8 1/4" Diameter of Crank pin 8" size of Crank webs 10 X 5 1/4"
 Diameter of screw 9-9" Pitch of screw 14-0" No. of blades 4 state whether moveable not total surface 2.6 square ft
 No. of Feed pumps 2 diameter of ditto 3" Stroke 2-6" Can one be overhauled while the other is at work no
 No. of Bilge pumps 1 diameter of ditto 4" Stroke 2-6" Can one be overhauled while the other is at work only one
 Where do they pump from Centre bilge of engine room
 No. of Donkey Engines 2 Size of Pumps 16" diam & 9" stroke Where do they pump from Fore main and after tanks and bilges
 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 1/2" Are they connected to condenser, or to circulating pump circulating pump
 How are the pumps worked Direct from crosshead
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Both valves & 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
 What pipes are carried through the bunkers no pipes in bunkers 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 February 1880
 Is the screw shaft tunnel watertight no tunnel and fitted with a sluice door worked from Engines in after end of vessel

BOILERS, &c.—

Number of Boilers one Description Cylindrical and multitubular
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 17th December 1879
 Description of superheating apparatus or steam chest Upright cylindrical double riveted lap jointed
 Can each boiler be worked separately only one Can the superheater be shut off and the boiler worked separately no superheater
 No. of square feet of fire grate surface in each boiler 3.6 square feet Description of safety valves Spring direct acting Adams patent
 No. to each boiler 2 area of each valve 9.621 sq in 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 8" from boilers to bunkers
 Diameter of boiler 12-4" Length of boiler 10-5" description of riveting of shell long. seams Treble circum. seams Double
 Thickness of shell plates 7/8" diameter of rivet holes 1 5/32" whether punched or drilled drilled pitch of rivets 4 1/2"
 Lap of plating 6 1/2" per centage of strength of longitudinal joint 72 % working pressure of shell by rules 80 lbs
 Size of manholes in shell 16 X 11 1/2" size of compensating rings Rectangular 2 1/4 X 2 3/4 X 7/8"
 No. of Furnaces in each boiler 3 outside diameter 3-0" length, top 6-0" bottom 8-6"
 Thickness of plates 1 1/32" description of joint Double butt strap rings are fitted no greatest length between rings —
 Working pressure of furnace by the rules Top 114 lbs Bottom 82.6 lbs
 Combustion chamber plating, thickness, sides 5/8" back 5/8" top 5/8"
 Pitch of stays to ditto sides 8 X 8" back 8 X 8" top 8 X 8"
 If stays are fitted with nuts or riveted heads with riveted heads working pressure of plating by rules 156 lbs
 Diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 93 lbs
 End plates in steam space, thickness 1 3/16" pitch of stays to ditto 15 X 14" how stays are secured Double nuts & washers
 Working pressure by rules 105 lbs diameter of stays at smallest part 2 1/4" working pressure by rules 106 lbs
 Front plates at bottom, thickness 3/4" Back plates, thickness 3/4" greatest pitch of stays 8 X 8" working pressure by rules 93 lbs



26818 Gun

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes 5×5 " thickness of tube plates, front $\frac{3}{4}$ " back $\frac{5}{8}$ "
 How stayed *stay tubes* pitch of stays 15×10 " width of water spaces $1\frac{3}{8}$ " between tubes & $10\frac{1}{2}$ " between tubes on the different boxes
 Diameter of Superheater or Steam chest $4 \sim 3$ " length $4 \sim 0$ "
 Thickness of plates $\frac{7}{16}$ " description of longitudinal joint *Lap double riveted* diameter of rivet holes $\frac{3}{4}$ " pitch of rivets $2\frac{1}{2}$ "
 Working pressure of shell by rules 93 lbs Diameter of flue *none* thickness of plates
 If stiffened with rings distance between rings Working pressure by rules
 End plates of superheater, or steam chest; thickness $\frac{1}{2}$ " How stayed *No stays but dished to a radius of $4 \sim 0$ "*
 Superheater or steam chest; how connected to boiler *Iron (malleable) tube 12 " long $1\frac{1}{2}$ " diam & $\frac{7}{16}$ " thick - flanged to boiler & chest*

DONKEY BOILER— Description *No donkey boiler*

Made at By whom made when made
 Where fixed working pressure Tested by hydraulic pressure to No. of Certificate
 Fire grate area Description of safety valves No. of safety valves area of each
 If fitted with easing gear If steam from main boilers can enter the donkey boiler
 Diameter of donkey boiler length description of riveting
 thickness of shell plates diameter of rivet holes whether punched or drilled
 pitch of rivets lap of plating per centage of strength of joint
 thickness of crown plates stayed by
 Diameter of furnace, top bottom length of furnace
 thickness of plates description of joint
 thickness of furnace crown plates stayed by
 Working pressure of shell by rules working pressure of furnace by rules
 diameter of uptake thickness of plates thickness of water tubes

The foregoing is a correct description.
 J. W. & M. Ingham & Co. (Ld) 16, Abchurch Lane, London, E.C. 4
 Manufacturer.

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

The machinery of this vessel has been constructed under ordinary survey and was tried under steam and found satisfactory. The material and workmanship is good. In our opinion the engine and boiler of this vessel are in good order and safe working condition and eligible for Lloyd's M.C. in the Register Book. The old engines Boilers tunnel shafting stern tube and all other details of the machinery were removed and new Engines and Boilers with all the details complete were fitted.

This submitted that this vessel is eligible to have the notations Lloyd's M.C. & N.S. 13 80 recorded in the Register Book J.M. 14/6/80

William Allison & Path Salmon
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee £ 2 : : received by me.
 Special .. £ 8 : 0 :
 Certificate (if required) .. £ 0 : 5 : 10 June 1880
 To be sent as per margin.
 (Travelling Expenses, if any, £ £10-5

Committee's Minute 18