

REPORT ON MACHINERY.

8462

No. 8462 Port of Glasgow
 No. in Survey held at Glasgow Date, first Survey 6th Dec^r 1884 Last Survey 19th April 1888
 Reg. Book. S. S. Algonquin Received at London Office 16 APR 88
 on the S. S. Algonquin (Number of Visits 14) 1805-61
 D. Master J. S. Moore Built at (Yoker) Glasgow By whom built Napier Shanks & Bell When built 1888
 Ditto Engines made at Glasgow By whom made Dunsmuir & Jackson when made 1888
 Ditto Boilers made at Do By whom made Do when made 1888
 Registered Horse Power 150 Owners Thos Marks & Co Port belonging to Glasgow

ENGINES, &c.

Description of Engines Inverted Direct Acting - Surface Condensing - Triple Expansion.

Diameter of Cylinders 21 33 54 Length of Stroke 36 No. of Rev. per minute 90 Point of Cut off, High Pressure .75 Low Pressure .75

Diameter of Screw shaft 10 1/2 Diam. of Tunnel shaft 10 Diam. of Crank shaft journals 10 1/2 Diam. of Crank pin 10 1/2 size of Crank webs 6 1/2 x 13

Diameter of screw 12-7 Pitch of screw 17-0 No. of blades Four state whether moveable Yes total surface 50 1/2 sq ft

No. of Feed pumps Two diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work Yes

Where do they pump from Keolds & Engine Room.

No. of Donkey Engines Two Size of Pumps Feed - 7 1/2 gals 4 pumps 9" dia Where do they pump from Ballast from Tanks & Sea

Feed donkey from Sea, hotwell & bilges. Also one 4" steam ejector aft and one 2 1/2" ejector in Fore 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 One and sizes 3 1/2" Are they connected to condenser, or to circulating pump Circulating.

How are the pumps worked By levers from crosshead of Intermediate 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 stokehold plates Yes Are the discharge pipes above ~~or below~~ the deep water line Yes

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 Two 1 1/2" pipes. 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 Before launching.

Is the screw shaft tunnel watertight No tunnel. and fitted with a sluice door ✓ worked from ✓

BOILERS, &c.

Number of Boilers Two Description Cylindrical - Multi Whether Steel or Iron Steel.

Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs. Date of test March 12th 1888.

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. of square feet of fire grate surface in each boiler 50. Description of safety valves Direct spring No. to each boiler Two

Area of each valve 8.3 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 or woodwork 3 feet Diameter of boilers 13-0"

Length of boilers 9-3" description of riveting of shell long. seams Butt - three rows circum. seams Lap. double Thickness of shell plates 1 1/2"

Diameter of rivet holes 1 1/32 whether punched or drilled Drilled pitch of rivets 7 1/2" & 3 3/4" Lap of plating 17"

Per centage of strength of longitudinal joint 84.5 working pressure of shell by rules 163 lbs. size of manholes in shell 16" x 12"

Size of compensating rings Double riveted ring. No. of Furnaces in each boiler Three.

Outside diameter 36" length, top 6-3" bottom ✓ thickness of plates 1 1/2" description of joint Weld. if rings are fitted Annular

Greatest length between rings 9" working pressure of furnace by the rules 183 lbs. combustion chamber plating, thickness, sides 9/16" back 9/16" top 9/16"

Pitch of stays to ditto, sides 7 3/4" back 7 3/4" top 7 3/4" If stays are fitted with nuts or riveted heads Nuts inside working pressure of plating by rules 162 lbs. Diameter of stays at smallest part 1 1/8" + 1 5/8" working pressure of ditto by rules 164 lbs. end plates in steam space, thickness 3/32" with 1/16" doubling.

Pitch of stays to ditto 17" x 15" how stays are secured Nuts working pressure by rules 167 lbs. diameter of stays at smallest part 2 3/4" working pressure by rules 172 lbs. Front plates at bottom, thickness 3/4" Back plates, thickness 1/16"

Greatest pitch of stays 12" x 7 3/4" working pressure by rules 160 lbs. Diameter of tubes 3 1/4" pitch of tubes 4 3/8" thickness of tube plates, front 13/16" back 3/4" how stayed Yokes pitch of stays 14" x 8 3/4" width of water spaces 4 to 6"

Diameter of Superheater or Steam chest None length ✓ thickness of plates ✓ description of longitudinal joint ✓ diam. of rivet holes ✓

Pitch 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 ✓

8462 gls

DONKEY BOILER— Description *Vertical.*
 Made at *Gateshead* by whom made *Clarke Chapman, Parsons & Co* when made *1888* where fixed *On deck*
 Working pressure *80 lb* tested by hydraulic pressure to *160 lb* No. of Certificate *2433* fire grate area *13 sq ft.* description of safety valves *Direct spring* No. of safety valves *Two* area of each *3.1 sq in* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *No* diameter of donkey boiler *5-0"* length *10-6"* description of riveting *Lap - double*
 Thickness of shell plates *3/8"* diameter of rivet holes *3/4"* whether punched or drilled *Drilled* pitch of rivets *2 3/4"* lap of plating *3 5/8"*
 per centage of strength of joint *72* thickness of crown plates *1/2"* stayed by *Five stays - 1 1/2" effective dia*
 Diameter of furnace, top *3-8"* bottom *4-2"* length of furnace *5-0"* thickness of plates *1/2"* description of joint *Single.*
 Thickness of furnace crown plates *1/2"* stayed by *As above* working pressure of shell by rules *90 lb*
 Working pressure of furnace by rules *80 lb* diameter of uptake *12" dia.* thickness of plates *7/16"* thickness of water tubes *3/8" dia.*

SPARE GEAR. State the articles supplied:— *Connecting rod top + bottom end bolts & nuts. One set of coupling bolts. Feed + bilge pump valves. Main bearing bolts. Amorted bolts, nuts & iron te. Also two blades for propeller. One dozen boiler tubes and one dozen condenser tubes.*

The foregoing is a correct description,
Russmin & Jackson Manufacturer.

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

*These engines & boilers have been constructed under special survey - they are of good material & workmanship - they have been well fitted on board - satisfactorily tested under steam - and I am of opinion they are eligible to be classed **L.M.C. 4-88** in the Register Book.*

Appended hereto are six Reports on Steel Tests - Two Reports on Forgings also the approved tracing of main boiler.

*This is submitted that this matter is eligible to have the non-peculiar + L.M.C. 4-88 recorded
 W.P.
 16/4/88*

The amount of Entry Fee .. £ *2* : - : - received by me,
 Special .. £ *22* : *10* : -
 Donkey Boiler Fee .. £ - : - : -
 Certificate (if required) .. £ - : - : - *14/4/1888*
 (To be sent as per margin.)
 (Travelling Expenses, if any, £ ..)

Committee's Minute
+ L.M.C. 4/88

Walter J. Robinson
 Engineer Surveyor to Lloyd's Register of British & Foreign Ships

Lloyd's Register Foundation