

REPORT ON MACHINERY.

No. 11203

Port of Glasgow

MON. 4 JAN 1892

No. in Survey held at Glasgow

Date, first Survey 15th May 1891 Last Survey 29th Dec 1891

Reg. Book.

on the S.S. Lok-Sang

Received at London Office

(Number of Visits 29)

Master Moncur

Built at Glasgow

By whom built London & Glasgow I.S. Bayly & Co. When built 1891

Engines made at Glasgow

By whom made London & Glasgow I.S. Bayly & Co.

when made 1891

Boilers made at Glasgow

By whom made Glasgow

when made 1891

Registered Horse Power 150

Owners

Messrs. Neswick

Port belonging to London

ENGINES, &c.—

Description of Engines Triple Expansion, Direct Acting, Inverted. No. of Cylinders Three
 Diam. of Cylinders 18 $\frac{1}{2}$ x 30 x 48 Length of Stroke 36 Rev. per minute 90 Point of Cut off, High Pressure $\frac{1}{6}$ Low Pressure $\frac{1}{8}$
 Diameter of Screw shaft 9 $\frac{1}{2}$ Diam. of Tunnel shaft 9 Diam. of Crank shaft journals 9 $\frac{1}{2}$ Diam. of Crank pin 9 $\frac{1}{2}$ size of Crank webs 12 x 7
 Diameter of screw 12 x 8 Pitch of screw 13 x 9 No. of blades Four state whether moveable Fixed total surface 46 sq ft
 No. of Feed pumps Two diameter of ditto 3 Stroke 19 $\frac{1}{2}$ Can one be overhauled while the other is at work Yes
 No. of Bilge pumps Two diameter of ditto 3 Stroke 19 $\frac{1}{2}$ Can one be overhauled while the other is at work Yes
 Where do they pump from Eng. Room, S. Hold, Main Hold, P. S. Fore Hold, After Hold, Tunnel Well.
 No. of Donkey Engines One Pulverizer Size of Pumps 6 x 4 x 6 Double Acting Where do they pump from Eng. Room, S. Hold, Fore & Aft Peak Tanks, Mids. Ballast Tanks, Main, Fore & Aft Holds, Hotwell, Boiler
 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 None fitted
 No. of bilge injections One and sizes 3 $\frac{1}{2}$ Are they connected to condenser, or to circulating pump Circulating Pumps
 How are the pumps worked By Levers from L.P. 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 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 Before launching
 Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Main deck.

BOILERS, &c.—

No. of Boilers One Description Layland's Multitubular Material Steel Letter (for record) S
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 25th November 1891
 Description of superheating apparatus or steam chest None
 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 55.0 Description of safety valves Spring No. to each boiler Two
 Area of each valve 11.04 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 13 Diameter of boilers 14.3
 Length of boilers 11.3 description of riveting of shell long. seams Double, B.B. Straps seams Lap, Raub's Patent thickness of shell plates 1 $\frac{1}{2}$
 Diameter of rivet holes 1 $\frac{1}{2}$ whether punched or drilled Drilled pitch of rivets 8 $\frac{1}{2}$ Lap of plating 1 x 1 $\frac{1}{4}$
 Percentage of strength of longitudinal joint 86.6 88.3 working pressure of shell by rules 165 lbs size of manholes in shell 16 x 12
 No. of compensating rings 11.3 No. of Furnaces in each boiler Three Description of Furnaces Purvis' Patent
 Inside diameter 3.4 length 8.0 thickness of plates 5 description of joint Welded if rings are fitted ✓
 Greatest length between rings ✓ working pressure of furnace by the rules 161 lbs combustion chamber plating, thickness, sides 7 $\frac{1}{2}$ x 7 $\frac{1}{2}$ back 7 $\frac{1}{2}$ top 7 $\frac{1}{2}$
 Thickness of stays to ditto, sides 4 x 4 back 7 $\frac{1}{2}$ x 7 $\frac{1}{2}$ top 7 $\frac{1}{2}$ x 7 $\frac{1}{2}$ If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 161 lbs
 Diameter of stays at smallest part 1 $\frac{1}{8}$ x 1 $\frac{1}{8}$ working pressure of ditto by rules 160 lbs and plates in steam space, thickness 3 $\frac{1}{2}$
 Pitch of stays to ditto 14 x 14 how stays are secured B. Nuts & Washers working pressure by rules 162 lbs diameter of stays at smallest part 2.2 working pressure by rules 148 lbs Front plates at bottom, thickness 1 $\frac{1}{2}$ Back plates, thickness 1 $\frac{1}{2}$ x 3 $\frac{1}{2}$
 Greatest pitch of stays 12 x 12 working pressure by rules 160 lbs Diameter of tubes 2 $\frac{1}{2}$ pitch of tubes 3 $\frac{1}{2}$ x 3 $\frac{1}{2}$ thickness of tube plates, front 7 back 3 $\frac{1}{2}$ how stayed Tubes & Bars pitch of stays width of water spaces 5.6 x 9
 Diameter of Superheater or Steam chest ✓ 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 ✓

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DONKEY BOILER—

Description

Vertical, Three Cross tubes

Made at Gateshead

by whom made

Clarke Chapman & Co.

when made 1891

where fixed

on Deck

Working pressure 80 lbs tested by hydraulic pressure to 160 lbs No. of Certificate 3425 fire grate area 11 sq. ft. description of safety

valves Spring

No. of safety valves Two

area of each 3.44

if fitted with easing gear Yes

if steam from main boilers can

enter the donkey boiler No

diameter of donkey boiler 4.9

length 10.6

description of riveting Lap Double Riveted

Thickness of shell plates $\frac{3}{8}$ diameter of rivet holes $\frac{3}{4}$

whether punched or drilled Riveted

pitch of rivets $2\frac{1}{2}$ lap of plating $3\frac{1}{2}$

per centage of strength of joint 72

thickness of crown plates $\frac{1}{2}$ stayed by Four Iron Stays 1 $\frac{1}{2}$ inch diam.

Diameter of furnace, top 9.5

bottom 4.1

length of furnace 5.0

thickness of plates $\frac{1}{2}$

description of joint Lap Single Riveted

Thickness of furnace crown plates $\frac{1}{2}$

stayed by shell crown

working pressure of shell by rules 9 lbs

Working pressure of furnace by rules 88 lbs

diameter of uptake 12

thickness of plates $\frac{3}{8}$ thickness of water tubes $\frac{3}{8}$

SPARE GEAR.

State the articles supplied:—

Two top & bottom end bolts & nuts for connecting rod.

Two main bearing bolts; Set of coupling bolts; Set of feed & bilge pump valves; Set of piston springs for H.P. & M.P. cyls. Propeller & one propeller shaft; Two crank pin brasses; Boiler feed check valves; Air circulating pump rods; Boiler & condenser tubes; Bolts etc.

The foregoing is a correct description,

For the London & Glasgow

Engineering & Iron Ship Building Co.

Manufacturer.

General Remarks

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

These engines and boilers have

been built under special survey. The materials and workmanship are good throughout, and they have been tested, as required by this Society's Rules, with satisfactory results. The main boiler is fitted with Hawksden's forced draught.

I am of opinion this vessel is eligible to have notification \star L.M.C. 12-91

MACHINERY CERTIFICATE

WRITTEN.

Certificate (if required) to be sent to

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

Special .. £ 22 : :

Donkey Boiler Fee .. £ : :

(Travelling Expenses, if any, £)

Committee's Minute

FRI 8 JAN 1892

+ L.M.C. 12, 91

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

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 12-91
C.E.S.

Lloyd's Register
Foundation