

# REPORT ON MACHINERY.

No. 59555

Received at London Office SAT. 7 JAN 1911  
 Date of writing Report 19 When handed in at Local Office JAN 6 1911 Port of Newcastle on Tyne  
 To. in Survey held at Newcastle on Tyne Date, First Survey 5<sup>th</sup> April 1910 Last Survey 5 January 1911  
 Reg. Book. on the S.S. "Harmattan" (Number of Visits 55)

Master Built at Walker By whom built Swan Hunter & Wigham Richardson Tons { Gross 4791  
 Engines made at Walker By whom made Swan Hunter & Wigham Richardson when made 1911  
 Boilers made at Walker By whom made Sitto when made

Registered Horse Power Owners J. & C. Harrison & Co Port belonging to London

Nom. Horse Power as per Section 28 421 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

NGINES, &c.—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 26" 42 1/2" 70" Length of Stroke 48" Revs. per minute 65 Dia. of Screw shaft as per rule 14 1/2" Material of steel  
 as fitted 15" screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight

in the propeller boss Yes If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two

liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 5' 0"

Dia. of Tunnel shaft as per rule 12 9/8" Dia. of Crank shaft journals as per rule 13 1/2" Dia. of Crank pin 13 1/2" Size of Crank webs 21 1/2 x 15 1/2" Dia. of thrust shaft under

collars 14 1/2" Dia. of screw 18 1/2" Pitch of Screw 17 1/2" No. of Blades 4 State whether moveable No Total surface 102 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 28" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 28" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 9x11x10; 4x5x4; 6x4x6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 of 3 1/2" x 10 1/2" tunnel well In Holds, &c. 2 of 3 1/2" to each

No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes - 3 1/2"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes

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 nil How are they protected Yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

Dates of examination of completion of fitting of Sea Connections 7.9.10 of Stern Tube 7.9.10 Screw shaft and Propeller 9.9.10

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform

BOILERS, &c.—(Letter for record Y) Manufacturers of Steel J. Spencer & Sons

Total Heating Surface of Boilers 5774 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 2 S.E. Cyl<sup>rs</sup> Mult<sup>l</sup>

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 27.10.10 No. of Certificate 8051

Can each boiler be worked separately Yes Area of fire grate in each boiler 63.5 sq ft No. and Description of Safety Valves to

each boiler 2 Spring Patent Area of each valve 12.56 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers 15 9/16" Length 12' 0" Material of shell plates steel

Thickness 1 1/32" Range of tensile strength 28 3/4/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams dr lap

long. seams dr d. & s. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 9 5/8" Lap of plates or width of butt straps 2 1/2"

Per centages of strength of longitudinal joint rivets 89.1 Working pressure of shell by rules 207.7 lbs Size of manhole in shell 16 x 12

Size of compensating ring 9 x 1 1/32" No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 49 3/4"

Length of plain part top 39 1/4" Thickness of plates crown 39 1/4" Description of longitudinal joint weld No. of strengthening rings 1

Working pressure of furnace by the rules 202 lbs Combustion chamber plates: Material steel Thickness: Sides 2 1/2" Back 5 1/2" Top 2 1/2" Bottom 1 5/16"

Pitch of stays to ditto: Sides 7 1/2 x 7 1/2" Back 7 1/2 x 7 1/2" Top 7 1/2 x 7 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 245 lbs End plates in steam space:

Material of stays iron Diameter at smallest part 2.03" Area supported by each stay 62.9 sq in Working pressure by rules 193.5 lbs Material of stays steel

Material steel Thickness 1" Pitch of stays 17 x 15 1/2" How are stays secured dr & w. Working pressure by rules 220 lbs Material of Front plates at bottom steel

Diameter at smallest part 8.56" Area supported by each stay 263.5 sq in Working pressure by rules 220 lbs Material of Front plates at bottom steel

Thickness 3 1/32" Material of Lower back plate steel Thickness 7/8" Greatest pitch of stays 12 1/2 x 7 1/2" Working pressure of plate by rules 256.4 lbs

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4 x 3 3/4" Material of tube plates steel Thickness: Front 3 1/32" Back 13/16" Mean pitch of stays 11 1/4 x 7 1/2"

Pitch across wide water spaces 13 1/2" Working pressures by rules 184 lbs Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 11 x 1 1/2" Length as per rule 35 1/2" Distance apart 7 7/8" Number and pitch of stays in each 3 - 7 1/2"

Working pressure by rules 210 lbs Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked

separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet

holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes

If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes

Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes



Lloyd's Register  
Foundation