

REPORT ON MACHINERY.

No. 354

Received at London Office THURSDAY 4 SEPT 1884

No. in Survey held at Dundee Date, first Survey 14/3/84 Last Survey 30th Aug. 1884
 Reg. Book. on the S.S. "Herald" (Number of Visits 559.9)
 Tons 356.06

Master Savory Built at Dundee By whom built Pearce Bros When built 1884
 Engines made at Dundee By whom made Pearce Bros when made 1884
 Boilers made at Dundee By whom made Pearce Bros when made 1884
 Registered Horse Power 90. Owners Stone Bros Port belonging to Auckland

ENGINES, &c.—

Description of Engines Direct Acting Compound, Inert Cyl. Surface Condensing
 Diameter of Cylinders 23" & 45" Length of Stroke 30" No. of Rev. per minute 80 Point of Cut off, High Pressure 17" Low Pressure 15"
 Diameter of Screw shaft 8 1/2" Diam. of Tunnel shaft 8 1/2" Diam. of Crank shaft journals 8 1/2" Diam. of Crank pin 8 1/2" size of Crank webs 5 3/4" x 9 3/4"
 Diameter of screw 10" 0" Pitch of screw 14" 0" No. of blades 4 state whether moveable all total surface 34.5 feet
 No. of Feed pumps Two diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work yes
 No. of Bilge pumps Two diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work yes
 Where do they pump from all compartments
 No. of Donkey Engines Two Size of Pumps Ballast 6" x 8" x 6" Feed 8" x 8" x 4 1/2" Where do they pump from Tanks & sea thro ship side
from sea & bilges to boiler. on deck & thro ship side
 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 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 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 being launched
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Top of cylinders

BOILERS, &c.—

Number of Boilers one Description Circular Tubular Whether Steel or Iron Steel
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 25th July 1884
 Description of ~~superheating apparatus~~ steam chest Horizontal Chest
 Can each boiler be worked separately — Can the superheater be shut off and the boiler worked separately —
 No. of square feet of fire grate surface in each boiler 52 feet Description of safety valves Direct Spring load No. to each boiler Two
 Area of each valve 14.19" 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 9" Diameter of boilers 12" 6"
 Length of boilers 9" 9" description of riveting of shell long. seams Lap & double R circum. seams Lap & R Thickness of shell plates 3"
 Diameter of rivet holes 1 1/8" whether punched or drilled drilled pitch of rivets 4.5" Lap of plating 7 3/8" & 5 5/8"
 Per centage of strength of longitudinal joint 75 & 76% working pressure of shell by rules 86 lbs size of manholes in shell 16" x 12" in front
 Size of compensating rings flat ring 3" thick No. of Furnaces in each boiler Three
 Outside diameter 39" length, top 6" 6" bottom 9" 0" thickness of plates 1/2" description of joint butt & R if rings are fitted single
 Greatest length between rings 6" 6" working pressure of furnace by the rules 86 lbs combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"
 Pitch of stays to ditto, sides 8 1/2" x 9 3/4" back 9 1/2" x 8 1/2" top ground If stays are fitted with nuts or riveted heads Nuts both ends working pressure of plating by rules 90 lbs Diameter of stays at smallest part 1 3/8" & 1 1/2" working pressure of ditto by rules 60 & 73 lbs end plates in steam space, thickness 3/8"
 Pitch of stays to ditto 18 1/2" x 18 1/2" how stays are secured thro end nuts working pressure by rules 80 lbs diameter of stays at smallest part 2 1/2" working pressure by rules 55 & 83 lbs Front plates at bottom, thickness 1/4" Back plates, thickness 1/4"
 Greatest pitch of stays 12 1/2" x 8 1/2" working pressure by rules 60 & 56 lbs Diameter of tubes 3 1/2" pitch of tubes 4 3/4" thickness of tube plates, front 1/4" back 1/4" how stayed Tubes pitch of stays 9 1/2" x 9 1/2" width of water spaces 1 1/2"
 Diameter of ~~Superheater or~~ Steam chest 3" 0" length 6" 0" thickness of plates 1/2" description of longitudinal joint Lap & R diam. of rivet holes 3/8"
 Pitch of rivets 2 3/4" working pressure of shell by rules 188 lbs 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 5" how stayed 4 bolts 1 1/2" dia
thro end nuts Superheater or steam chest; how connected to boiler by malleable neck riveted to shell

DUN110-0128

The Builder desire that the Certificate may be paid to Messrs McEwan & Co of London & when applied for to them.

DONKEY BOILER— Description *one Round vertical diagonal uptake*
Made at *Gateshead* by whom made *Clark Chapman & Co* when made *1884* where fixed *Stoke Hall*
Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *1719* fire grate area *14 feet* description of safety valves *Direct Spring 7* No. of safety valves *one* area of each *8.3* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *no* diameter of donkey boiler *5.0* length *9.0* description of riveting *Lap double R*
Thickness of shell plates *7/16* diameter of rivet holes *7/8* whether punched or drilled *Punched* pitch of rivets *3 1/2* lap of plating *4 1/2*
per centage of strength of joint *75%* thickness of crown plates *1/2* stayed by *4 bolts 1 3/8 diameter*
Diameter of furnace, top *3.8* bottom *4.3* length of furnace *4.0* thickness of plates *1/2* description of joint *Lap S.R.*
Thickness of furnace crown plates *1/2* stayed by *same as crown* working pressure of shell by rules *84 lbs*
Working pressure of furnace by rules *80 lbs* diameter of uptake *12* thickness of plates *3/8* thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied:— *Four spare blades for propeller. Two each connecting rod top bottom end bolts. Two main bearing bolts & coupling bolts. lot of bolts assorted, one set each bilge & peak pump valves. lot of bolt iron & boiler plates & C.B.*
The foregoing is a correct description,
Pearce Brothers Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been built under special survey, the material and workmanship are of the best description.*
*The engines and boilers have been tested under steam and the safety valves set to 80 lbs per square inch working pressure, and in my opinion all are in good and safe working order and eligible to be entered into the Register Book with the distinctive mark **✠ L.M.C 8.84**.*

It is submitted that this vessel is eligible to have the notification placed in the Register Book.

The amount of Entry Fee £ 1 : 0 : 0 received by me,
Special .. £ 13 : 10 : 0
Donkey Boiler Fee .. £ : :
Certificate (if required) .. £ : : 30th Aug. 1884
To be sent as per margin.
(Travelling Expenses, if any, £ ..)

Committee's Minute

FRIDAY 5 SEPT 1884

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



Lloyd's Register Foundation