

REPORT ON MACHINERY.

10912

No. 10912 Port of Glasgow
 No. in Survey held at Dumbarton Date, first Survey 4th March 1891 Last Survey July 26th 1891
 Reg. Book S. S. "Pioneer" on the "S. S. Pioneer" Received at London Office 29th Aug 91
 Master Wm Denny Built at Dumbarton By whom built Wm Denny & Co Tons Gross 156
 Engines made at Dumbarton By whom made M. Paul & Co When built 1891
 Boilers made at " By whom made M. Paul & Co when made 1891
 Registered Horse Power 24 Owners Cooperation of Trinity House Port belonging to London

ENGINES, &c.—

Description of Engines Compound No. of Cylinders Two
 Diam. of Cylinders 12 1/2" x 24" Length of Stroke 10" Rev. per minute 125 Point of Cut off, High Pressure Variable
 Diameter of Screw shaft 4 3/4" Diam. of Tunnel shaft 4 1/2" Diam. of Crank shaft journals 4 1/4" Diam. of Crank pin 4 1/4" size of Crank webs 2 3/8" x 6"
 Diameter of screw 6" x 6" Pitch of screw 9" x 6" No. of blades 4 state whether moveable Yes total surface 42 sq ft
 No. of Feed pumps One diameter of ditto 2 1/2" Stroke 4 1/2" Can one be overhauled while the other is at work Yes when donkey pump is working
 No. of Bilge pumps One diameter of ditto 2 1/2" Stroke 4 1/2" Can one be overhauled while the other is at work Yes
 Where do they pump from All compartments
 No. of Donkey Engines One Size of Pump 3 1/2" x 2" x 4 1/2" Where do they pump from Sea, Bilges, Hotwell
Donkey Engine with pump for Evaporator 3 1/2" x 1" x 3"
 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 2 1/2" Are they connected to condenser, or to circulating pump Circulating
 How are the pumps worked By Levers
 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 — 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 On ship before launching
 Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Aboard

BOILERS, &c.—

No. of Boilers One Description Round Horizontal Material Steel Letter (for record) S
 Working Pressure 100 lbs Tested by hydraulic pressure to 220 lbs Date of test 1st July 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 —
 No. of square feet of fire grate surface in each boiler 20 sq ft Description of safety valves Direct Spring No. to each boiler Two
 Area of each valve 3.14" 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 8' 9"
 Length of boilers 8' 2" description of riveting of shell long. seams Double riveted circum. seams Double Thickness of shell plates 19/32"
 Diameter of rivet holes 13/16" whether punched or drilled Drilled pitch of rivets 4 3/8" Lap of plating 8 1/2" x 17/16"
 Percentage of strength of longitudinal joint 83% working pressure of shell by rules 128 lbs size of manholes in shell 16" x 12"
 No. of compensating rings Jointing piece No. of Furnaces in each boiler Two Description of Furnaces Plain
 Inside diameter 2' 9" length 5' 2" thickness of plates 19/32" description of joint welded if rings are fitted —
 Greatest length between rings — working pressure of furnace by the rules 119 lbs combustion chamber plating, thickness, sides 3/16" back 3/16" top 3/16"
 Pitch of stays to ditto, sides 8 1/2" x 8 1/2" back 8 1/2" x 7" top 8 1/2" x 6 1/2" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 113 lbs Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 144 lbs and plates in steam space, thickness 29/32"
 Pitch of stays to ditto 14" x 12 1/2" how stays are secured By double nuts working pressure by rules 125 lbs diameter of stays at smallest part 2" solid = 2.5" area working pressure by rules 137 lbs Front plates at bottom, thickness 1 1/16" Back plates, thickness 1 1/16"
 Greatest pitch of stays 12 1/4" x 4" working pressure by rules — Diameter of tubes 2 1/2" pitch of tubes 39 1/2" x 39 1/2" thickness of tube plates, front 26/32" back 10/16" how stayed By tubes pitch of stays 14 1/4" x 14 1/4" width of water spaces About 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 —

Reference should be made to any copy of the Report is also sent on the Hull of the Ship

10912. g.s.

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 *—*

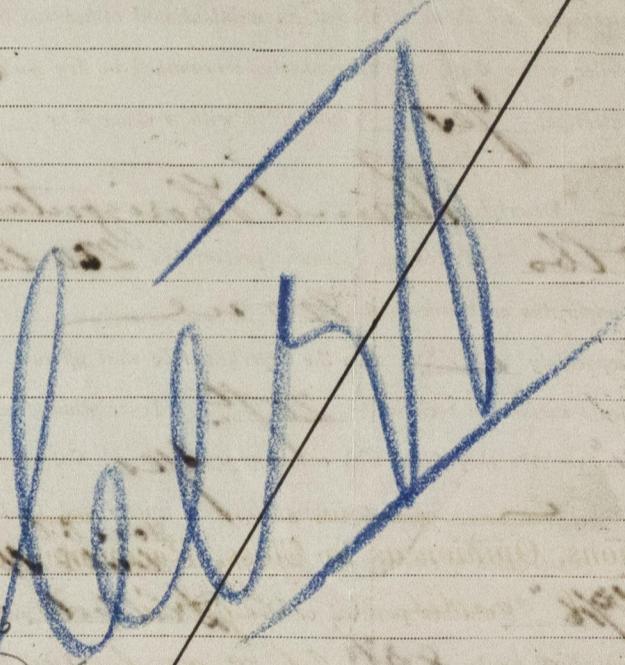
SPARE GEAR. State the articles supplied:— *3 Propeller blades, one Crank Shaft, one
 Propeller Shaft, one piston & Cyl. cover for each Cylinder, 2 Connecting
 rod bolts (top & bottom), 2 main bearing bolts, 1 set Crank pin bolts, 1 set of
 valves for pumps, assortment of bolts, nuts, Springs &c*

The foregoing is a correct description,

Matthew Lane & Co Manufacturer.

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

*These Engines & Boilers are
 of good workmanship & materials and are now in good
 order & safe working condition and eligible in my
 opinion to be noted in the Register Book *Lloyd's*
 M. C. 8/91*



*It is submitted that this vessel is
 eligible to have + L.M.C. 8.91 verified
 M.A.
 31.8.91*

The amount of Entry Fee .. £ 1 : : received by me,
 Special £ 8 : :
 Donkey Boiler Fee £ : :
 Certificate (if required) .. £ : : 31.8.1891
To be sent as per margin.

Committee's Minute

TUES. 1 SEP 1891

+ L.M.C. 8/91

James Mollie R. Devuille
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Clyde District

Lloyd's Register Foundation