

# REPORT ON MACHINERY.

11015

No. 11015

Port of Glasgow

THURS. 15 OCT 1891

No. in Survey held at Glasgow

Date, first Survey Sept. 1890

Received at London Office

Last Survey Oct 9 1891

Reg. Book.

320 on the S.S. "Norham Castle"

(Number of Visits 59)

Gross Tons 4150

Master Winchester Built at Glasgow

By whom built

Laird & Co.

Net Tons 2667

When built 1880-2

Engines made at Glasgow

By whom made

when made

1880-2

Boilers made at Glasgow

By whom made

when made

1891-10

Registered Horse Power 800

Owners

J. Currier & Co.

Port belonging to

London

## ENGINES, &c.

Description of Engines Duplex at this time No. of Cylinders Three  
 Diam. of Cylinders 34" 00 1/2 96 Length of Stroke 60 Rev. per minute 100 Point of Cut off, High Pressure 1/2 Low Pressure 1/2  
 Diameter of Screw shaft 8" Diam. of Tunnel shaft 1 1/2" Diam. of Crank shaft journals 18" Diam. of Crank pin 1 1/2" size of Crank webs 1 1/2"  
 Diameter of screw 18" 6" Pitch of screw 2 1/2" No. of blades 10 state whether moveable Yes total surface 100 ft.  
 No. of Feed pumps Two diameter of ditto 6" Stroke 25" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps Two diameter of ditto 6" Stroke 20" Can one be overhauled while the other is at work Yes

Where do they pump from All compartments

No. of Donkey Engines Three Size of Pumps 8" x 10" x 24" (2) 12" x 4" x 12" Where do they pump from Sea & bilge & hold

Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkhead always accessible Yes  
 No. of bilge injections Two and sizes 10" Are they connected to condenser or to circulating pump Circulating pumps

How are the pumps worked By levers Centrifugal  
 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 painting of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate Yes

What pipes are carried through the bunker Suction to foreholds How are they protected By wire casing

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 Crown Dry Dock 24 Oct 1891  
 Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Upper platform

## BOILERS, &c.

No. of Boilers Three Description Double ended Multitubular Material Steel Letter (for record) S.  
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 5 July 1891

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 Yes

No. of square feet of fire grate surface in each boiler 132 1/2 Description of safety valves Direct to sea No. to each boiler Two  
 Area of each valve - Are they fitted with easing gear Yes No. of safety valves to superheater Two area of each valve -

Are they fitted with easing gear - Smallest distance between boilers and bunkers or woodwork Inside bunkers Diameter of boilers 14" 9"  
 Length of boilers 19" 2" description of riveting of shell longitudinal seams Double butt straps Double riveted circum. seam Ribbed & double Thickness of shell plates 1 1/2"

Diameter of rivet holes 1 1/16" whether punched or drilled Drilled pitch of rivets 8 3/8" 6 3/8" 4 3/8" Lap of plating 1 1/2" straps  
 Percentage of strength of longitudinal joint 85.2 working pressure of shell by rules 160 lbs size of manholes in shell 12" x 16"

Size of compensating rings 2 1/2" rings No. of Furnaces in each boiler Six Description of Furnaces Burner  
 Outside diameter 14 1/2" length 4 ft thickness of plates 3/16" description of joint welded if rings are fitted  
 Greatest length between rings - working pressure of furnace by the rules 160 lbs combustion chamber plating, thickness, sides 3/16" back 2" top 3/16"

Pitch of stays to ditto, sides 7/8" x 7/8" back - top 7/8" x 7/8" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 162 lbs  
 diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 164 lbs and plates in steam space, thickness 3/16"

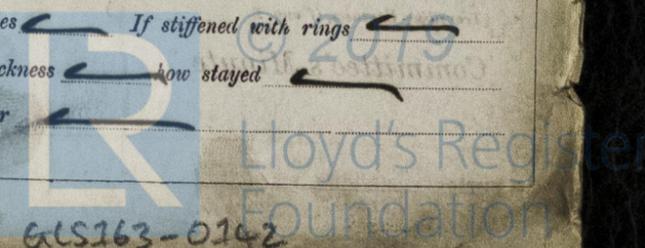
Pitch of stays to ditto 15" x 15" how stays are secured Nuts working pressure by rules 149 lbs diameter of stays at smallest part 2 3/8" Screws working pressure by rules 145 lbs Front plates at bottom, thickness 1 1/16" Back plates, thickness -

Greatest pitch of stays - working pressure by rules - Diameter of tubes 3 1/4" pitch of tubes 4 1/2" x 4 1/2" thickness of tube plates, front 1 1/16" back 1 1/16" how stayed tubes pitch of stays 11 1/2" x 9" width of water spaces about 6"

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 -

[142 - I.R.P.H. - 2000 - Form No. 8 - Copyable Ink.]



11015 lbs

DONKEY BOILER—

Description

Multitubular

Made at Glasgow by whom made Lindsay Burnett & Co when made 1891 where fixed Strathfield  
Working pressure 160 lbs tested by hydraulic pressure to 160 lbs No. of Certificate 3041 fire grate area 28 sq ft description of safety valves Direct Spring No. of safety valves 2 area of each 4 sq in if fitted with easing gear Yes if steam from main boilers can enter the donkey boiler No diameter of donkey boiler 10 x 6 length 8' 0" description of riveting Lap double  
Thickness of shell plates 19/32 diameter of rivet holes 1/16 whether punched or drilled Full pitch of rivets 1 1/2" lap of plating 6 1/2"  
Percentage of strength of joint thickness of furnace plates 12/16 stayed by Bar stays 2" diameter 2" pitch  
Diameter of furnace, top 3 1/2" bottom 3" length of furnace 5' 9" thickness of plates 3/8" description of joint Duplex  
Thickness of furnace cover plates 7/16 stayed by Screw stays 1 1/2" pitch 1/2" x 1/2" working pressure of shell by rules 160 lbs  
Working pressure of furnace by rules 130 lbs diameter of water tubes 1 1/2" thickness of plates 10/16 thickness of water tubes 1/16

SPARE GEAR. State the articles supplied: Two top & bottom end cranks 200 bolts, 14 main bearing bolts, 1 doz coupling bolts 2 feet 2 bolts pump valves Propeller with two blades complete also shaft, stem bush, length crank shaft air pump rod & bucket, assortment of bolts nuts & springs & valves  
The foregoing is a correct description, other parts

Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.) The new boiler and the tripling of the Engines have been built and completed by the original builders. The Fairfield Coy. The workmanship and materials are of good description and the whole of the machinery is now in good order and safe working condition and eligible in my opinion to be noted in the Register book  
M.C. 10/91

Certificate (if required) to be sent to  
The amount of Entry Fee ... £ ... received by me,  
Special ... £ 2 ...  
Boiler Fee ... £ 21 ...  
9/11 1891

James Hollison  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.  
TUES. 27 OCT 1891  
Clyde District

Committee's Minute TUES. 20 OCT 1891  
+ LMB 10/91

+ NB 9/91 + Triples 91

M.C. 10.91  
15.10.91  
20/10/91  
Lloyd's Register Foundation