

REPORT ON MACHINERY.

3488

No. 280

Received at London Office, DEC 1883

No. in Survey held at Aberdeen Date, first Survey 18/8/82 Last Survey 21 Sept 1883
 Reg. Book. _____ (Number of Visits) 29.79
 on the ISS "North Star" Tons 15.60

Master M. Bond Built at Aberdeen By whom built J. Duthie & Sons When built 1883
 Engines made at Aberdeen By whom made Hall Russell & Co when made 1883
 Boilers made at Aberdeen By whom made Hall Russell & Co when made 1883
 Registered Horse Power 60 Owners Wm Pyper & Co Port belonging to Aberdeen

ENGINES, &c.—

Description of Engines Direct Acting Compound Inlet Cyls surface Condensing
 Diameter of Cylinders 19" & 38" Length of Stroke 24" No. of Rev. per minute 100 Point of Cut off, High Pressure 1/2 Low Pressure 1/2
 Diameter of Screw shaft 6 1/2" ^{Steel} Diam. of Tunnel shaft 6 1/2" ^{Iron} Diam. of Crank shaft journals 7" Diam. of Crank pin 7" size of Crank webs 4 1/2" x 5 1/2" x 8"
 Diameter of screw 8" 1/2" Pitch of screw 14" 6" No. of blades 4 state whether moveable sol total surface 30.8 feet
 No. of Feed pumps one diameter of ditto 2 1/2" Stroke 16" Can one be overhauled while the other is at work —
 No. of Bilge pumps one diameter of ditto 2 1/2" Stroke 16" Can one be overhauled while the other is at work —
 Where do they pump from All compartments
 No. of Donkey Engines one Size of Pumps 5" x 7" x 3" D.A. Where do they pump from Sea Hotwell all compartments thru Condenser to boiler and on deck
 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 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 none and fitted with a sluice door — worked from —

BOILERS, &c.—

Number of Boilers one Description Circular Tubular Whether Steel or Iron Steel
 Working Pressure 100 lbs Tested by hydraulic pressure to 200 lbs Date of test 1st September 1883
 Description of ~~superheating apparatus~~ steam chest Vertical dumb
 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 38 feet Description of safety valves Direct S.Z 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 4 1/2" Diameter of boilers 11" 0"
 Length of boilers 9" 0" description of riveting of shell long. seams Butt D.N. circum. seams Lap D.N. Thickness of shell plates 2 3/8"
 Diameter of rivet holes 1 5/8" whether punched or drilled drilled pitch of rivets 3 3/4" Lap of plating 10" & 4 1/2"
 Per centage of strength of longitudinal joint 75 & 82% working pressure of shell by rules 104 lbs size of manholes in shell 16" x 12"
 Size of compensating rings angle 3 1/2" x 3 1/2" x 3" No. of Furnaces in each boiler three
 Outside diameter 36" length, top 6" 0" bottom 8" 6" thickness of plates 1/2" description of joint Butt S.N. if rings are fitted 1/2"
 Greatest length between rings 6" 0" working pressure of furnace by the rules 103 lbs combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"
 Pitch of stays to ditto, sides 8 1/2" x 8 1/2" back 8 1/2" x 8 1/2" top round If stays are fitted with nuts or riveted heads Nuts both ends working pressure of plating by rules 101 lbs Diameter of stays at smallest part 1 1/8" ^{Steel round sides 1 1/2"} working pressure of ditto by rules 77 2/3 lbs and plates in steam space, thickness 1 3/16"
 Pitch of stays to ditto 15 1/2" x 15 1/2" how stays are secured thru ends Nuts working pressure by rules 102 lbs diameter of stays at smallest part 2 1/8" ^{Steel} working pressure by rules 66 4/2 lbs Front plates at bottom, thickness 1 3/16" Back plates, thickness 1 3/16"
 Greatest pitch of stays 10" x 8 3/4" working pressure by rules 72 9/1 lbs Diameter of tubes 3" pitch of tubes 4 1/2" x 4" thickness of tube plates, front 1 3/16" back 4/16" how stayed tubes pitch of stays 8" x 8 1/2" width of water spaces 1 1/4" 1"
 Diameter of ~~Superheater~~ Steam chest 3" 0" length 3" 9" thickness of plates 1/2" description of longitudinal joint Lap D.N. diam. of rivet holes 1 3/16"
 Pitch of rivets 2 1/2" working pressure of shell by rules 200 lbs diameter of flue — thickness of plates — If stiffened with rings —
 Distance between rings — working pressure by rules — end plates of ~~superheater~~ steam chest; thickness 3/4" how stayed Dished
~~Superheater~~ steam chest; how connected to boiler riveted to shells

Registered Foundation

ABNS-0013

DONKEY BOILER— Description None

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 casing 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:— 2 Top end bolts for connecting rod and 2 for lower end 2 main bearing bolts 5 Coupling bolts 20 bolts assorted several pieces of iron. piston springs. Feed out bilge pump valves &c

The foregoing is a correct description,
Hall Russell & Co Manufacturer. 8

General Remarks (State quality of workmanship, opinions as to class, &c. The Engines and Boiler of)
 This vessel have 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 100 lbs 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. 9. 83**

It is submitted that this vessel is eligible to have the notation Form B Q. 83 recorded

R. 9
 3/12/83

The amount of Entry Fee .. £ 1 : 0 : 0 received by me,
 Special £ 9 : 0 : 0
 Donkey Boiler Fee £ - : - : -
 Certificate (if required) .. £ - : - : - for 28 1883
 To be sent as per margin.
 (Travelling Expenses, if any, £ 2.16.3)

John Sturrock
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Sunderland & District

Committee's Minute TUESDAY 4 DEC 1883

