

REPORT ON MACHINERY.

28 OCT. 1897

Port of Aberdeen

Received at London Office

No. in Survey held at Aberdeen Date, first Survey July 10th 96 Last Survey October 28th 97
 Reg. Book. 140 on the screw steamer "Angeli" (Number of Visits 51)
 Master C. Stuart Built at Aberdeen By whom built Hall Russell & Co Tons { Gross 2928.46
 Net 1863.61
 Engines made at Aberdeen By whom made Hall Russell & Co when made 1894
 Boilers made at Aberdeen By whom made Hall Russell & Co when made 1894
 Registered Horse Power 428 Owners J. J. Rennie & Sons Port belonging to Aberdeen
 Nom. Horse Power as per Section 28 425.5 Is Electric Light fitted Yes

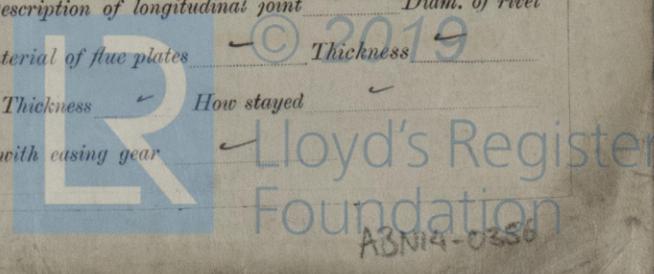
ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Diameter of Cylinders 25 1/2, 43 1/2, 69 1/4 Length of Stroke 45 Revolutions per minute 75 Diameter of Screw shaft as per rule 12.61
 as fitted 13 1/2
 Diameter of Tunnel shaft as per rule 11.98 Diameter of Crank shaft journals 13 1/4 Diameter of Crank pin 13 1/4 Size of Crank webs 13 1/2 x 10
 as fitted 12 3/4
 Diameter of screw 16-6 Pitch of screw 19-3 No. of blades 4 State whether moveable No Total surface 84 1/2
 No. of Feed pumps 2 Diameter of ditto 3 3/4 Stroke 27 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 27 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps Hayward & Taylor's feed 7 1/2 x 4 1/2 x 7 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 3 1/2" and Two 3" In Holds, &c. Fore hold one 3 1/2" Main hold
two 3" after hold one 3 1/2" Funnel well one 3"
 No. of bilge injections one size 5 3/4 Connected to condenser, &c. 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 None to the fore & main holds How are they protected By wooden casings
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launching Is the screw shaft tunnel watertight Yes
 Is it fitted with a watertight door Yes worked from the top platform

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 7695.2 Is forced draft fitted No
 No. and Description of Boilers 2 double ended horizontal Working Pressure 180 Tested by hydraulic pressure to 360
 Date of test 1/9/97 Can each boiler be worked separately Yes Area of fire grate in each boiler 124 1/2 No. and Description of safety valves to
 each boiler 2 Spring Area of each valve 15.90 Pressure to which they are adjusted 180 Are they fitted
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 15-6 Mean diameter of boilers 15-6
 Length 18-0 Material of shell plates steel Thickness 1 3/8 Description of riveting: circum. seams double outside triple inside long. seams double outside triple inside
 Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 9 1/16 Lap of plates or width of butt straps 2 1/2 x 1 3/16
 Per centages of strength of longitudinal joint 90.4 Working pressure of shell by rules 183 Size of manhole in shell 16 x 12
 plate 85.16
 Size of compensating ring 28 x 1 3/8 No. and Description of Furnaces in each boiler 6 Brown's Material steel Outside diameter 46.18
 Length of plain part 19 Thickness of plates 1 3/8 Description of longitudinal joint Welded No. of strengthening rings 13
 Working pressure of furnace by the rules 188.3 Combustion chamber plates: Material steel Thickness: Sides 3/32 Back 5/8 Top 9/16 Bottom 1/16
 Pitch of stays to ditto: Sides 7 1/2 x 8 1/2 Back 8 1/2 Top 7 1/2 x 7 1/2 Bottom 1 1/16 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 183
 Material of stays steel Diameter at smallest part 1 1/16 Area supported by each stay 72.0 Working pressure by rules 215 End plates in steam space:
 Material steel Thickness 1 1/16 Pitch of stays 15 1/2 x 14 1/8 How are stays secured 8 nuts + washers Working pressure by rules 215 Material of stays steel
 Diameter at smallest part 2 1/16 Area supported by each stay 230.0 Working pressure by rules 182.6 Material of Front plates at bottom steel
 Thickness 7/8 Material of Lower back plate 4 1/2 vertical Thickness 1 1/16 Greatest pitch of stays 10 1/16 Working pressure of plate by rules 183
 Diameter of tubes 3 1/2 Pitch of tubes 4 3/8 Material of tube plates steel Thickness: Front 1 1/16 Back 1 3/32 Mean pitch of stays 10 1/16
 Pitch across wide water spaces 15 1/2 Working pressures by rules 180.4 Girders to Chamber tops: Material Iron Depth and
 thickness of girder at centre 9 1/4 x 2 1/4 Length as per rule 39.8125 Distance apart 4 1/16 Number and pitch of Stays in each 4 7 1/2
 Working pressure by rules 206 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked
 separately Yes Diameter 18 Length 18 Thickness of shell plates 1 1/16 Material steel Description of longitudinal joint Welded Diam. of rivet
 holes 1 1/16 Pitch of rivets 9 1/16 Working pressure of shell by rules 183 Diameter of flue 18 Material of flue plates steel Thickness 1 1/16
 If stiffened with rings Yes Distance between rings 18 Working pressure by rules 183 End plates: Thickness 1 1/16 How stayed Welded
 Working pressure of end plates 183 Area of safety valves to superheater None Are they fitted with easing gear Yes

If not, state whether, and when, one will be sent?

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2476-0000-242200-C



A.S. Ingeli

No 5637

DONKEY BOILER— Description *Horizontal Multitubular*
 Made at *Aberdeen* By whom made *Hall Russell & Co* When made *1897* Where fixed *on the upper stn*
 Working pressure *100* tested by hydraulic pressure to *200* No. of Certificate *226* Fire grate area *25.2* Description of safety valves *2 Spring*
 No. of safety valves *2* Area of each *5.94* Pressure to which they are adjusted *100* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *9-6"* Length *9-0"* Material of shell plates *steel* Thickness *5/8"*
 Description of riveting long seams *double riveted* Diameter of rivet holes *15/16"* Whether punched or drilled *drilled* Pitch of rivets *3 1/16"*
 Width of butt strips *single riveted* Rivets *19.6* Mount & back *3/4"* Radius of do. *flat* No. of Stays to do. *10*
 Lap of plating *9 3/4 + 2/16"* Per centage of strength of joint *77.2* Thickness of shell crown plates *3/4"* Description of joint *single riveted* Diameter of furnace Top *35"* Bottom *35"* Length of furnace *6 1/2 ft* Thickness of furnace plates *17/32"* Working pressure of shell by rules *108.3*
 Dia. of stays *1 13/16* Diameter of furnace crown plates *35"* Stayed by *Yes* Thickness of water tubes *3/4"*
 Working pressure of furnace by rules *111* Diameter of uptake *35"* Thickness of uptake plates *3/4"*
 Pitch of tubes = *4 1/2"*

SPARE GEAR. State the articles supplied:—
as per rule with the addition of a 1/3rd crankshaft, a spare propeller, + spare air + circulating rods + buckets

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

Dates of Survey while building
 During progress of work in shops: *1896-Sept 10-13, Jan 1897-9-14-20-26-29-Feb 3-11-18-26-March 9-15-25-April 2-7-15-21-28-May 8-15-21-28*
 During erection on board vessel: *1897-June 3-8-15-24-28-July 2-9-13-28-Aug 4-10-17-26*
 Total No. of visits *51*

General Remarks (State quality of workmanship, opinions as to class, &c. *This vessel machinery*)
has been examined during construction + the materials and workmanship found to be good + in accordance with the rules requirements + the approved plans. On completion the safety valves were adjusted under steam + the engines were run with satisfactory results. She is therefore eligible in my opinion to be classed as regards the machinery, with the notation of +LMC -10.97 in the Reg. Book.

The plans of the main + donkey boilers, pumping arrangements, + forging reports are herewith enclosed.

It is submitted that this vessel is eligible for THE RECORD, + L.M.C. 10.97. Elec. Light.

H.S.
 29.10.97

Francis Pitson
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee... £ 3 : 0 :
 Special ... £ 41 : 5 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for: *Oct 28th 1897*
 When received: *17/11/97*

Committee's Minute **FRI. 29 OCT 1897**

Assigned *+ LMC 10, 97 Elec Light*



Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minutes.