

REPORT ON MACHINERY.

28 OCT. 1897

Port of

Aberdeen

Received at London Office

18

No. in Survey held at
Reg. Book.

Aberdeen

Date, first Survey *Sept 10th 96* Last Survey *October 28th 1897*(Number of Visits *51*)

140 on the

screw steamer *Ingelli*Tons { Gross *2928.46*
Net *1863.61*

Master

C. Stuart

Built at

Aberdeen

By whom built

Hall Russell & Co

When built

1897

Engines made at

Aberdeen

By whom made

Hall Russell & Co

when made

1897

Boilers made at

Aberdeen

By whom made

Hall Russell & Co

when made

1897

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 *25½, 42½, 69¾* Length of Stroke *45* Revolutions per minute *75* Diameter of Screw shaft *as per rule 12.61*Diameter of Tunnel shaft *as per rule 11.98* Diameter of Crank shaft journals *13¾* Diameter of Crank pin *13¾* Size of Crank webs *13½ x 10*Diameter of screw *16-6* Pitch of screw *19-3* No. of blades *4* State whether moveable *No* Total surface *84 ft²*No. of Feed pumps *2* Diameter of ditto *3¾* Stroke *27* Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2* Diameter of ditto *4½* Stroke *27* Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *3* Sizes of Pumps *3½, 3, 2½* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *Two 3½" and Two 3"* In Holds, &c. *Fore hold one 3½" Main hold two 3" after hold one 3½" Tunnel well one 3"*No. of bilge injections *one size 5¾* Connected to condenser, &c. to circulating pump *Yes* Is a separate donkey suction fitted in Engine room & size *Yes 3½"*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 ft²*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 ft²* No. and Description of safety valves toeach boiler *2 Spring* Area of each valve *15.90* Pressure to which they are adjusted *180* Are they fittedwith easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodworkLength *18-0* Material of shell plates *steel* Thickness *1/8* 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 1/32*Per centages of strength of longitudinal joint *90.4* Working pressure of shell by rules *183* Size of manhole in shell *16 x 12*Size of compensating ring *28 x 1 3/8* No. and Description of Furnaces in each boiler *6 Brown* Material *steel* Outside diameter *46.18*Length of plain part *top 13 1/2 bottom 13 1/2* Thickness of plates *top 13 1/2 bottom 13 1/2* 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 *1/16* Bottom *1/16*Pitch of stays to ditto: Sides *7 1/2 x 8 1/2* Back *8 1/2* Top *12 1/2 x 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 *183* End plates in steam space: *183*Material *steel* Thickness *1 1/16* Pitch of stays *15 1/2 x 14 1/8* How are stays secured *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 *steel* 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 *1/32* 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 andthickness of girder at centre *9 1/4 x 2 1/4* Length as per rule *39.8125* Distance apart *7 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 workedseparately *Yes* Diameter *Yes* Length *Yes* Thickness of shell plates *Yes* Material *Yes* Description of longitudinal joint *Yes* Diam. of rivetholes *Yes* Pitch of rivets *Yes* Working pressure of shell by rules *Yes* Diameter of flue *Yes* Material of flue plates *Yes* Thickness *Yes*If stiffened with rings *Yes* Distance between rings *Yes* Working pressure by rules *Yes* End plates: Thickness *Yes* How stayed *Yes*Working pressure of end plates *Yes* Area of safety valves to superheater *Yes* Are they fitted with easing gear *Yes*Working pressure of end plates *Yes* Area of safety valves to superheater *Yes* Are they fitted with easing gear *Yes*Working pressure of end plates *Yes* Area of safety valves to superheater *Yes* Are they fitted with easing gear *Yes*Working pressure of end plates *Yes* Area of safety valves to superheater *Yes* Are they fitted with easing gear *Yes*Working pressure of end plates *Yes* Area of safety valves to superheater *Yes* Are they fitted with easing gear *Yes*Working pressure of end plates *Yes* Area of safety valves to superheater *Yes* Are they fitted with easing gear *Yes*

A.D. Ingeli

no 5637

DONKEY BOILER— Description *Horizontal Multitubular*
 Made at *abersdeen* By whom made *Hall Russell & Co* When made *1897* Where fixed *on the upper st.*
 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 straps *double 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"* Per centage of strength of joint *94.2* Thickness of shell crown plates *3/4"* Thickness of furnace plates *1 1/2"* Description of
 Dia. of stays. *1 3/16"* Diameter of furnace Top *35"* Bottom *✓* Length of furnace *6 1/2 ft* Thickness of furnace plates *1 1/2"* Working pressure of shell by rules *108.3*
 joint *single riveted* Thickness of furnace crown plates *✓* Stayed by *✓* Thickness of uptake plates *✓* Thickness of water tubes *3/4"*
 Working pressure of furnace by rules *111* Diameter of uptake *✓* Pitch of tubes = *4 1/2"*

SPARE GEAR. State the articles supplied:—

*as per rule, with the addition of
 a 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. 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 running 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. Rec. Light.

A.S.
29.10.97

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

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

Assigned

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



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 Foundation