

# REPORT ON MACHINERY.

No. 365.

Received at London Office MONDAY 21 DEC 1884

No. in Survey held at Aberdeen Date, first Survey 10<sup>th</sup> July 84 Last Survey 3<sup>rd</sup> Decr 1884  
Reg. Book. (Number of Visits )

on the S.S. "Gleneagles" Tons

Master J. Grant Built at Aberdeen By whom built Hall Russell & Co When built 1884

Engines made at Aberdeen By whom made Hall Russell & Co when made 1884

Boilers made at Aberdeen By whom made Hall Russell & Co when made 1884

Registered Horse Power 70 Owners J. Fleming Port belonging to Aberdeen

## ENGINES, &c.—

Description of Engines Direct Acting Compound Invt Cyls Surface Condensing

Diameter of Cylinders 22" & 41" Length of Stroke 27" No. of Rev. per minute 90 Point of Cut off, High Pressure  $\frac{1}{2}$  Low Pressure  $\frac{1}{2}$

Diameter of Screw shaft 7" steel Diam. of Tunnel shaft 7" Diam. of Crank shaft journals  $7\frac{1}{2}"$  Diam. of Crank pin  $7\frac{1}{2}"$  size of Crank webs  $5 \times 8\frac{3}{4}$

Diameter of screw  $9 \times 9$  Pitch of screw  $15 \times 0$  No. of blades 4 state whether moveable Sol. total surface 35 feet

No. of Feed pumps one diameter of ditto  $2\frac{1}{2}"$  Stroke  $14\frac{1}{2}"$  Can one be overhauled while the other is at work —

No. of Bilge pumps one diameter of ditto  $2\frac{1}{2}"$  Stroke  $17\frac{1}{2}"$  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  $7 \times 8 \times 3\frac{1}{2}$  Where do they pump from Sea Hotwell Tank.

all compartments to boiler on Deck thro Condenser & ship side

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  $2\frac{1}{2}"$  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 yes and fitted with a sluice door yes worked from Top of cylinders

## 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 17<sup>th</sup> November 1884

Description of ~~superheating apparatus~~ steam chest Vertical chest

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 41.8 feet Description of safety valves Direct Spring 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 9" Diameter of boilers 12" 0"

Length of boilers 9" 0" description of riveting of shell long. seams Butt D.R. circum. seams lap D.R. Thickness of shell plates  $\frac{7}{8}"$

Diameter of rivet holes  $1\frac{3}{16}"$  whether punched or drilled drilled pitch of rivets  $4\frac{3}{4}"$  Lap of plating  $12\frac{3}{4} \times 6\frac{3}{4}"$

Per centage of strength of longitudinal joint 75 & 79 % working pressure of shell by rules 117 lbs size of manholes in shell  $16 \times 11$

Size of compensating rings  $5 \times 3\frac{1}{2} \times \frac{3}{4}"$  No. of Furnaces in each boiler three

Outside diameter 38" length, top 6" 2" bottom 8" 3" thickness of plates  $\frac{17}{32}"$  description of joint butt S.R. if rings are fitted no

Greatest length between rings — working pressure of furnace by the rules 106 lbs combustion chamber plating, thickness, sides  $\frac{1}{2}"$  back  $\frac{1}{2}"$  top  $\frac{1}{2}"$

Pitch of stays to ditto, sides  $8\frac{3}{4} \times 8\frac{3}{4}"$  back  $8\frac{3}{4} \times 8\frac{3}{4}"$  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  $1\frac{1}{8}"$  B.T. working pressure of ditto by rules 772 lbs and plates in steam space, thickness  $\frac{13}{16}"$

Pitch of stays to ditto  $15 \times 15"$  how stays are secured thro ends nuts working pressure by rules 106 lbs diameter of stays at

smallest part  $2\frac{3}{8}"$  B.T. working pressure by rules 6428 lbs Front plates at bottom, thickness  $\frac{17}{16}"$  Back plates, thickness  $\frac{13}{16}"$

Greatest pitch of stays  $11\frac{1}{2} \times 8\frac{3}{4}"$  working pressure by rules 3354 lbs Diameter of tubes  $3\frac{1}{4}"$  pitch of tubes  $4\frac{1}{2}"$  thickness of tube

plates, front  $\frac{17}{16}"$  back  $\frac{17}{16}"$  how stayed tubes both pitch of stays  $13\frac{1}{2} \times 9"$  width of water spaces  $1\frac{1}{4}"$

Diameter of ~~superheater~~ Steam chest 3" 0" length 4" 4" thickness of plates  $\frac{7}{16}"$  description of longitudinal joint lap D.R. diam. of rivet holes  $1\frac{3}{16}"$

Pitch of rivets  $2\frac{1}{2}"$  working pressure of shell by rules 172 lbs 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  $\frac{3}{4}"$  how stayed one butt stay

thro Centre 3" diam Superheater or steam chest; how connected to boiler riveted to shells



3570 ABN.

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:— Two each Top & Bottom end connecting rod bolts  
Two main bearing bolts lot bolts assorted one set coupling bolts  
one set each feed & bilge pump valves one set piston springs  
pieces of iron various sizes &c &c  
The foregoing is a correct description,  
Hall Russell & Co. Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery of this vessel  
has been built under special survey. The material & workmanship  
are of the best description.  
The engines and boiler have been tested under steam, and  
the safety valves set to 100 lbs working pressure, and all found  
satisfactory, 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  $\text{I.M.C. 12.84.}$

It is submitted that this  
abscon is eligible to have  
the notification & L.M.C.  
received by 27/1/84

The amount of Entry Fee £ 1 : 0 : 0 received by me,  
Special £ 10 : 10 : 0  
Donkey Boiler Fee £ : :  
Certificate (if required) £ : : 15 Dec 1884  
To be sent as per margin.  
(Travelling Expenses, if any, £ 3 : 1 : 6)

Committee's Minute TUESDAY 23 DEC 1884  
+ L M C

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

