

REPORT ON MACHINERY.

No. 5340

(Received in London Office) 18

No. in Survey held at Dumbarton & Glasgow Date, first Survey March 1880 Last Survey April 9th 1881
 Reg. Book.

on the "S.S. Egyptian Monarch"

Tons 3975.4
2552.28

Master J. O. Conkalle Built at Dumbarton When built 1880-1

Engines made at Glasgow By whom made David Rowan when made 1880-1

Boilers made at " By whom made " when made 1880-1

Registered Horse Power 500 Owners Royal Exchange Shipping Coy. (Limited) Port belonging to London

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting
 Diameter of Cylinders 46" & 87" Length of Stroke 57" No. of Rev. per minute about 54 Point of Cut off, High Pressure 38" Low Pressure 32"
 Diameter of Screw shaft 16" Diameter of Tunnel shaft 15" Diameter of Crank shaft journals 16" Diameter of Crank pin 16 1/2" size of Crank webs 11 1/2" / 19"
 Diameter of screw 18 1/2" Pitch of screw 24" No. of blades four state whether moveable yes total surface 90 sq ft
 No. of Feed pumps two diameter of ditto 6" Stroke 28 1/2" Can one be overhauled while the other is at work yes
 No. of Bilge pumps two diameter of ditto 4 1/2" Stroke 28 1/2" Can one be overhauled while the other is at work yes
 Where do they pump from All the Compartments
 No. of Donkey Engines two Size of Pumps one 9" x 4 1/2" x 10" one 8" x 10" x 14" Where do they pump from from Sea Bilge & Hotwell
+ Ballast Tanks
 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 4 1/2" Are they connected to condenser, or to circulating pump & circulating
 How are the pumps worked By Levers
 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 nearest
 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 bilge pipes to the hold How are they protected By wood 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 April 1st 1881
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Upper platform

BOILERS, &c.—

Number of Boilers three Description Round Horizontal (with two furnaces in each end)
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test Dec 3rd 1880
 Description of superheating apparatus or steam chest Longitudinal Receiver on each Boiler
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately no superheater
 No. of square feet of fire grate surface in each boiler 91 sq ft Description of safety valves Sweet Spring
 No. to each boiler two area of each valve 21.65" 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 or woodwork Stowage ship bunkers 4 ft stokehold
 Diameter of boilers 12 ft Length of boilers 18.6 description of riveting of shell long. seams double straps circum. seams double
 Thickness of shell plates 1/4" diameter of rivet holes 1 1/8" whether punched or drilled drilled pitch of rivets 4 1/2"
 Lap of plating 1 1/2" x 1/16" straps per centage of strength of longitudinal joint 75% working pressure of shell by rules 86.5 lbs
 Size of manholes in shell 16" x 12" size of compensating rings doubling plate fitted
 No. of Furnaces in each boiler four outside diameter 4 ft 7" length, top 4 ft 10" bottom 8' 10"
 Thickness of plates 3/16" Description of joint — if rings are fitted — greatest length between rings —
 Working pressure of furnace by the rules —
 Combustion chamber plating, thickness, sides 3/16" back 3/16" top 3/16"
 Pitch of stays to ditto sides 8 1/2" x 8" back 8 1/2" x 8" top Radial Laps
 If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 130 lbs
 Diameter of stays at smallest part 1 3/8" & 1 1/4" stays working pressure of ditto by rules 108 lbs
 End plates in steam space, thickness 1 1/16" pitch of stays to ditto 1 1/4" x 1 1/4" main stays how stays are secured By palms &
loose studs
 Working pressure by rules — diameter of stays at smallest part 1 1/8" & 1 1/4" working pressure by rules —
 Front plates at bottom, thickness 1 1/16" Back plates, thickness no back greatest pitch of stays — working pressure by rules —



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Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4}$ " thickness of tube plates, front $\frac{1}{16}$ " back $\frac{1}{16}$ "
 How stayed *By Lugs* pitch of stays $9\frac{1}{2}$ " & $9\frac{1}{2}$ " width of water spaces $9"$ & $6"$
 Diameter of ~~main~~ steam chest $3\frac{1}{2}$ " length $18"$ & $6"$
 Thickness of plates $\frac{1}{16}$ " description of longitudinal joint *Double riveted* diameter of rivet holes $\frac{13}{16}$ " pitch of rivets $3"$
 Working pressure of shell by rules 133 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 $\frac{1}{16}$ " How stayed *By angle iron + baffle plate*
~~Superheater~~ steam chest; how connected to boiler *By two rock pieces*

DONKEY BOILER— Description *Cochran's patent round vertical multitubular*
 Made at *Birkenhead* By whom made *Cochran* when made *1881*
 Where fixed *on main deck above stowhold* working pressure 80 lbs Tested by hydraulic pressure to 160 lbs No. of Certificate ---
 Fire grate area $18\frac{1}{2}$ sq ft Description of safety valves *Direct Spring* No. of safety valves *Two* area of each $4"$
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
 Diameter of donkey boiler $5'$ & $9"$ height $11'$ & $2"$ description of riveting *Double & single*
 thickness of shell plates $\frac{1}{32}$ " diameter of rivet holes $\frac{13}{16}$ " whether punched or drilled *punched*
 pitch of rivets $2\frac{3}{4}$ " lap of plating $3\frac{1}{2}$ " per centage of strength of joint 76%
 thickness of crown plates $\frac{5}{8}$ " stayed by *6 Gussat plates*
 Diameter of furnace, top $4'$ & $0"$ bottom --- length of furnace $1'$ & $6"$
 thickness of plates $\frac{1}{16}$ " description of joint *lap*
 thickness of furnace crown plates $\frac{1}{16}$ " stayed by *Uplate and dished*
 Working pressure of shell by rules 90 lbs working pressure of furnace by rules ---
 diameter of uptake $15"$ thickness of plates $\frac{3}{16}$ " thickness of water tubes *no water tubes*

The foregoing is a correct description, as regards main engines & main boilers
Davie Rowan Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines & Boilers are of good workmanship and in good order & safe working condition and eligible in my opinion to be noted in the Register Book + Lloyds M.C. 9. 81.*)

*This is submitted that the usual to be done to have the modification recorded in the Register Book
 R. M. 14/4/81*

The amount of Entry Fee .. £ 3 : " : " received by me,
 Special £ 45 : " : " viz: £ 50. 2/-
 Certificate (if required) .. £ " : " : " 21st March 1881
 (To be sent as per margin.)
 (Travelling Expenses, if any, £ 2. 2/-)

Committee's Minute Tuesday April, 12th 1881.

James Morrison & Co.
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.

