

REPORT ON MACHINERY.

7774

Greenock
No. 9251
Wargow 7/2/87

Received at London **MONDAY 17 JAN 1887**

No. in Survey held at Greenock Bowling Date, first Survey 8th June, 1886 Last Survey 14th Jan, 1887
(Number of Visits 23) Tons 444.42

Reg. Book. on the S.S. "Marmion" When built 1886

Master Built at Bowling By whom built Scott & Coy.

Engines made at Ayr By whom made J & S. Young when made 1886

Boilers made at do By whom made do do when made 1886

Registered Horse Power 140 Owners Wm Watt Port belonging to Glasgow

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting Triple Expansion

Diameter of Cylinders 20, 32 & 53 Length of Stroke 36 No. of Rev. per minute 75 Point of Cut off, High Pressure 2 3/2 Intermediate 2 1/2 Low Pressure 2 1/2

Diameter of Screw shaft 10 & 9 1/2 Diam. of Tunnel shafts 9 3/8 Diam. of Crank shaft journals 10 Diam. of Crank pins 10 size of Crank webs 17 x 4

Diameter of screw 12 & 6 Pitch of screw 19 & 0 No. of blades Four state whether moveable no total surface 48 1/2 square feet

No. of Feed pumps Two diameter of ditto 3 1/2 Stroke 18 Can one be overhauled while the other is at work yes

No. of Bilge pumps Two diameter of ditto 3 1/2 Stroke 18 Can one be overhauled while the other is at work yes

Where do they pump from Engine room, Cargo Hold, & After end of tunnel

No. of Donkey Engines One Size of Pumps 6" x 10" stroke Where do they pump from Sea, Bilges, Ballast tanks & Hot well

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" Are they connected to condenser, or to circulating pump Circulating pump

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 below

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 & tank pipes How are they protected 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 on slip before vessel was launched & at Ayr

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Engine room top platform

BOILERS, &c.—

Number of Boilers Two Description Round Horizontal Multitubular Whether Steel or Iron Steel

Working Pressure 150 lbs Tested by hydraulic pressure to 300 lbs per sq in Date of test 20th November 1886

Description of superheating apparatus or steam chest Horizontal Receiver

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 41 Description of safety valves Direct spring No. to each boiler Two

Area of each valve 7.06 sq in 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 9" from coals in the Diameter of boilers 11" 3"

Length of boilers 10 & 6 description of riveting of shell long seams Double butt straps circum. seams Double Thickness of shell plates 1 3/32 full

Diameter of rivet holes 1 1/8 full whether punched or drilled punched and drilled pitch of rivets 5 1/2 full Lap of plating 18" straps

Per centage of strength of longitudinal joint 78.7 working pressure of shell by rules 156 lbs size of manholes in shell 15 1/2 x 11 1/2

Size of compensating rings 6 1/2 broad x 1 1/8 thick No. of Furnaces in each boiler Two

Outside diameter 42 length, top 7.1 bottom 9.9 thickness of plates 1 3/32 description of joint Welded if rings are fitted Bottoms

Greatest length between rings — working pressure of furnace by the rules 154 lbs combustion chamber plating, thickness, sides 9/16 back 9/16 top 9/16

Pitch of stays to ditto, sides 8 x 8 back 8 x 8 top 8 x 8 If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 151 lbs Diameter of stays at smallest part 1 1/4 working pressure of ditto by rules 153 lbs end plates in steam space, thickness 3/32 full

Pitch of stays to ditto 14 x 14 how stays are secured Double nuts & washers riveted working pressure by rules 150 lbs diameter of stays at smallest part 2 1/16 top row 1 1/16 working pressure by rules 150 lbs Front plates at bottom, thickness 4/16 doubling plate 5/8 & 1/2 thick Back plates, thickness 5/8 & 1/2 thick

Greatest pitch of stays 10 3/4 working pressure by rules 330 lbs Diameter of tubes 3 1/2 pitch of tubes 4 5/8 x 4 5/8 thickness of tube plates, front 3/4 & 1/2 doubling plate back 3/4 full how stayed Stay tubes pitch of stays 9 1/4 x 9 1/4 width of water spaces 6 to 7 inches

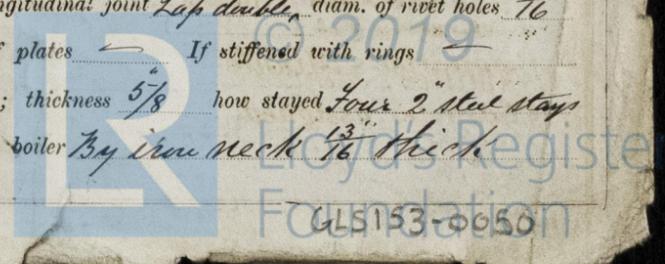
Diameter of Superheater or Steam chest 35 length 5 & 0 thickness of plates 9/16 description of longitudinal joint Lap double diam. of rivet holes 1 1/16

Pitch of rivets 3 working pressure of shell by rules 237 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 5/8 how stayed Four 2" steel stays Superheater or steam chest; how connected to boiler By iron neck 1 3/16 thick

Report is also sent on the Hull of the ship

Form No. 8-2000-14785-Transfer Ink.



7774 g/s.

DONKEY BOILER— Description *Round vertical, steel*

Made at *Agre* by whom made *J. S. Young* when made *1886* where fixed *Stockholm*

Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *238* fire grate area *about 10 1/2 feet* description of safety valves *Direct spring* No. of safety valves *one* area of each *7.06 sq* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *no* diameter of donkey boiler *5' 6"* length *11' 0"* description of riveting *vertical double. Cilt single*

Thickness of shell plates *3/2"* diameter of rivet holes *1 3/16"* whether punched or drilled *punched & annealed* pitch of rivets *vertical 2 1/2"* lap of plating *4"*

percentage of strength of joint *71* thickness of crown plates *1/2"* stayed by *Six 2" bar stays. steel*

Diameter of furnace, top *4' 10"* bottom *5' 1"* length of furnace *5' 3"* thickness of plates *1/2"* description of joint *Lap double riveted*

Thickness of furnace crown plates *1/2"* stayed by *as above* working pressure of shell by rules *73 lbs*

Working pressure of furnace by rules *70 lbs* diameter of uptake *14" x 3/8"* thickness of plates *3/8"* thickness of water tubes *3/8" iron.*

SPARE GEAR. State the articles supplied:— *2 Main bearing bolts, 2 Connecting rod top end bolts & nuts, 2 Connecting rod bottom end bolts & nuts, a set of Coupling bolts, 1 set of feed & bilge pump valves, 4 junk ring studs & nuts, 4 tubes for main boilers & one stepper rod, a number of wood stoppers, 6 Condenser tubes, a quantity of bolts, nuts & iron assorted.*

The foregoing is a correct description,
J. S. Young Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines & Boilers have been specially surveyed during construction, workmanship of good quality, shafts examined when being rough turned & found satisfactory. The engines & Boilers are satisfactorily fitted on board, and tested under full steam, they are now in good order & safe working condition and are in my opinion eligible to be noted in the Register Book L.M.C. 1,87.*

This submitted that this vessel is eligible to have the notification + sm & 187 recorded

17/1/87

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The amount of Entry Fee .. £ 2 : 0 : 0 received by me.
 Special £ 21 : 0 : 0
 Donkey Boiler Fee £ ✓ : :
 Certificate (if required) .. £ gratis 14/1/1887
 To be sent as per margin.
 (Travelling Expenses, if any, £ 8 : 5 : 0.)

C. L. Heron
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUESDAY 18 JAN 1887**
J. L. M. B.

