

REPORT ON MACHINERY.

No. *Belfast 3242* Received at *THURSDAY 26 AUGUST 1886*
 No. in Survey held at *Glasgow* Date, first Survey *March 5th 1886* Last Survey *Aug 16th 1886*
 Reg. Book. *6 in Supn the* (Number of Visits *35*) Tons *131.96*
 Master *John Paisley* Built at *Belfast* By whom built *Messrs Workman, Clark & Co* When built *1886*
 Engines made at *Glasgow* By whom made *Messrs J. & J. Thomson* when made *1886*
 Boilers made at *"* By whom made *"* when made *1886*
 Registered Horse Power *70* Owners *The Antrim Iron Ore Co* Port belonging to *Belfast*

ENGINES, &c.—

Description of Engines *Compound Inverted direct acting*
 Diameter of Cylinders *19" x 38"* Length of Stroke *30"* No. of Rev. per minute *80* Point of Cut off, High Pressure *1/4"* Low Pressure *1/4"*
 Diameter of Screw shaft *7 1/4"* Diam. of Tunnel shaft *4"* Diam. of Crank shaft journals *7 1/4"* Diam. of Crank pin *7 1/4"* size of Crank webs *5 1/4" x 7"*
 Diameter of screw *10 ft* Pitch of screw *15 ft* No. of blades *4* state whether moveable *yes* total surface *30.4 sq ft*
 No. of Feed pumps *One* diameter of ditto *3"* Stroke *15"* Can one be overhauled while the other is at work *✓*
 No. of Bilge pumps *One* diameter of ditto *4"* Stroke *15"* Can one be overhauled while the other is at work *✓*
 Where do they pump from *Stowell* *all bilges and tanks*
 No. of Donkey Engines *One* Size of Pumps *4 1/4" cyl 8 1/2" strokes* Where do they pump from *Sea, Boiler, bilges & 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 *3" dia* Are they connected to condenser, or to circulating pump *air pump*
 How are the pumps worked *By levers on after engine only*
 Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *Cocks & Valves*
 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 launching 3rd June, 1886*
 Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *top platform*

BOILERS, &c.—

Number of Boilers *One* Description *cylindrical multitubular* Whether Steel or Iron *Steel*
 Working Pressure *90 lbs* Tested by hydraulic pressure to *180 lbs* Date of test *June 4th 1886*
 Description of superheating apparatus or steam chest *none*
 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 *52 sq ft* Description of safety valves *direct spring* No. to each boiler *two*
 Area of each valve *4.04 sq"* 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 *14"* Diameter of boilers *12" 6"*
 Length of boilers *9' 6"* description of riveting of shell long. seams *dbl riv butt* circum. seams *dbl riv lap* Thickness of shell plates *3/4"*
 Diameter of rivet holes *1 1/16"* whether punched or drilled *drilled* pitch of rivets *4 1/2"* Lap of plating *straps 10 3/4" x 9"*
 Per centage of strength of longitudinal joint *76.4* working pressure of shell by rules *95 lbs* size of manholes in shell *16" x 12"*
 Size of compensating rings *3 x 3 x 3/2"* No. of Furnaces in each boiler *three*
 Outside diameter *34"* length, top *6' 6"* bottom *8' 6"* thickness of plates *1/2"* description of joint *dbl riv butt* if rings are fitted *3 x 3 x 3/2"*
 Greatest length between rings *6' 6"* working pressure of furnace by the rules *93 lbs* combustion chamber plating, thickness, sides *1/2"* back *1/2"* top *1/2"*
 Pitch of stays to ditto, sides *8' x 9"* back *8' x 8"* top *8' x 9"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *95 lbs* Diameter of stays at smallest part *1 1/4" screw* working pressure of ditto by rules *98 lbs* end plates in steam space, thickness *1 3/16"*
 Pitch of stays to ditto *16" x 16"* how stays are secured *dbl nuts* working pressure by rules *92 lbs* diameter of stays at smallest part *2 1/4" screw* working pressure by rules *105 lbs* Front plates at bottom, thickness *1 1/16"* Back plates, thickness *1 1/16" x 3/4"*
 Greatest pitch of stays *✓* working pressure by rules *✓* Diameter of tubes *3 1/4"* pitch of tubes *4 1/2" x 4 1/2"* thickness of tube plates, front *1/16"* back *1/16"* how stayed *stay tubes* pitch of stays *13 1/2" x 9"* width of water spaces *6"*
 Diameter of Superheater or Steam chest *✓* length *✓* thickness of plates *✓* description of longitudinal joint *✓* diam. of rivet holes *✓*
 Pitch of rivets *✓* working pressure of shell by rules *✓* diameter of flue *✓* thickness of plates *✓* If stiffened with rings *2019*
 Distance between rings *✓* working pressure by rules *✓* end plates of superheater, or steam chest; thickness *✓* how stayed *✓*
 Superheater or steam chest; how connected to boiler *✓*

DONKEY BOILER—

Description

Vertical

Common

Made at Glasgow by whom made Messrs J & J Thomson when made 1886 where fixed Star Stockhold
 Working pressure 60 lbs tested by hydraulic pressure to 120 lbs No. of Certificate 1574 fire grate area 12 sq ft description of safety
 valves direct spring No. of safety valves one area of each 4.04 sq ft if fitted with easing gear yes if steam from main boilers can
 enter the donkey boiler no diameter of donkey boiler 4.6 length 7.3 description of riveting S. riv lap
 Thickness of shell plates 7/16 diameter of rivet holes 13/16 whether punched or drilled drilled pitch of rivets 2 1/2 lap of plating 2 1/2
 per centage of strength of joint 47.6 thickness of crown plates 7/16 stayed by 3-1 1/2 stays & uptake
 Diameter of furnace, top 3.8 bottom 4.0 length of furnace 3.0 thickness of plates 7/16 description of joint S. riv lap
 Thickness of furnace crown plates 1/2 stayed by as above working pressure of shell by rules 82 lbs
 Working pressure of furnace by rules 72 lbs diameter of uptake 10 thickness of plates 7/16 thickness of water tubes 7/16

SPARE GEAR. State the articles supplied:— 2 propeller blades with a set of studs & nuts for
one blade. 2 con rod top end bolts & nuts 2 con rod bottom end bolts & nuts 1 set
of coupling bolts 1 set of feed and bilge pump valves with seats also a quantity
of assorted bolts & nuts.

The foregoing is a correct description,

John Samu Thomson Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Stern bush, propeller
shaft & boss the machinery seatings with all sea cocks and valves
were fitted before launching under the inspection and to the satisfaction
of the undersigned; after which the vessel left this port for Glasgow
to receive her machinery.

James Maxton
27 Aug. 1886

The engines and boilers of the above named vessel have been constructed
under Special Survey; they are of good material and workmanship and are now in
good working order and eligible in my opinion to receive the notification of
L M & S 8-86 in the Register book

The shafting was examined while rough turned and afterwards and appeared
to be quite satisfactory

The amount of Entry Fee .. £ 1 : 0 : 0 received by me,
 Special .. £ 10 : 10 : 0
 Donkey Boiler Fee .. £ 0 : 0 : 0
 Certificate (if required) .. £ 0 : 0 : 0 24/8/1886
 To be sent as per margin.
 (Travelling Expenses, if any, £ ..)

Committee's Minute

FRIDAY 27 AUGUST 1886

J. L. Hindmarsh James Maxton
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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