

REPORT ON MACHINERY.

3312

No. 3312 Belfast Report.

No. in Survey held at *Glasgow & Belfast* Date, first Survey *10th Nov^r*
Reg. Book. *on the* *Screw Steamer Kathleen*

Received at London Office *SAT 10 APR 1887*
Last Survey *24th March 1887*
(Number of Visits *30*) *336.48*
Tons *112.40*

Master *Ed. Russell* Built at *Belfast* By whom built *Worthman Clark & Co* When built *1884*
Engines made at *Glasgow* By whom made *John & James Thomson* when made *1884*
Boilers made at *"* By whom made *"* when made *1884*
Registered Horse Power *70* Owners *"* Port belonging to *Belfast*

ENGINES, &c.—

Description of Engines *Compound Inverted Direct Acting*
Diameter of Cylinders *19" + 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 *4 1/2"* Diam. of Tunnel shaft *4"* Diam. of Crank shaft journals *4 1/2"* Diam. of Crank pin *4 1/2"* size of Crank webs *5 1/2" x 9"*
Diameter of screw *10 1/2"* Pitch of screw *16 1/2"* No. of blades *4* state whether moveable *Yes* total surface *30 1/2"*
No. of Feed pumps *One* diameter of ditto *3"* Stroke *15* Can one be overhauled while the other is at work *Yes*
No. of Bilge pumps *One* diameter of ditto *4"* Stroke *15* Can one be overhauled while the other is at work *Yes*
Where do they pump from *All Compartments*
No. of Donkey Engines *One* Size of Pumps *4 1/2" x 8" Stroke 8 1/2"* Where do they pump from *Sea Bilge & 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 *1 3/4"* Are they connected to condenser, or to circulating pump *to 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 *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*
That pipes are carried through the bunkers *None* How are they protected *Yes*
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*
Then were stern tube, propeller, screw shaft, and all connections examined in dry dock *while on landways March 2nd 1887*
the screw shaft tunnel watertight *Yes* and fitted with a sluice door *Yes* worked from *Main Deck*.

BOILERS, &c.—

Number of Boilers *One* Description *Round Horizontal* Whether Steel or Iron *Steel*
Working Pressure *90 lbs* Tested by hydraulic pressure to *180 lbs* Date of test *4th March 1887*
Description of superheating apparatus or steam chest *None*
Can each boiler be worked separately *Yes* Can the superheater be shut off and the boiler worked separately *Yes*
No. of square feet of fire grate surface in each boiler *52 1/2* Description of safety valves *Direct Spring* No. to each boiler *Two*
Area of each valve *4"* Are they fitted with easing gear *Yes* No. of safety valves to superheater *None* area of each valve *None*
Are they fitted with easing gear *Yes* Smallest distance between boilers and bunkers or woodwork *13"* Diameter of boilers *12' 6"*
Length of boilers *9' 6"* description of riveting of shell long. seams *Double riveted* circum. seams *Double riveted* Thickness of shell plates *3/16"*
Diameter of rivet holes *1 1/8"* whether punched or drilled *Drilled* pitch of rivets *4 1/2"* Lap of plating *Straps 10 1/4" x 9/16"*
Percentage of strength of longitudinal joint *46 1/2%* working pressure of shell by rules *95 lbs* size of manholes in shell *16" x 12"*
No. of compensating rings *Angle piece* No. of Furnaces in each boiler *Three*
Inside diameter *3 3/4"* length, top *6' 6"* bottom *8' 6"* thickness of plates *9/16"* description of joint *Single riveted butt* rings are fitted *3" x 3" x 1/2"*
Greatest length between rings *None* working pressure of furnace by the rules *93 lbs* combustion chamber plating, thickness, sides *9/16"* back *9/16"* top *9/16"*
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"* working pressure of ditto by rules *98 lbs* end plates in steam space, thickness *13/16"*
Pitch of stays to ditto *16" x 16"* how stays are secured *Double 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 *1/16"* Back plates, thickness *1/16"*
Greatest pitch of stays *None* working pressure by rules *None* 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 *By tubes* pitch of stays *13 1/2" x 9"* width of water spaces *6"*
Diameter of Superheater or Steam chest *None* length *None* thickness of plates *None* description of longitudinal joint *None* diam. of rivet holes *None*
Pitch of rivets *None* working pressure of shell by rules *None* diameter of flue *None* thickness of plates *None* If stiffened with rings *None*
Distance between rings *None* working pressure by rules *None* end plates of superheater, or steam chest; thickness *None* how stayed *None*
Superheater or steam chest; how connected to boiler *None*

EXA

DONKEY BOILER—

Description

Vertical

Made at Glasgow by whom made John & James Thomson when made 1884 where fixed in the holdWorking pressure 60 lbs tested by hydraulic pressure to 120 lbs No. of Certificate 1448 fire grate area 12 ft description of safetyvalves Direct Spring No. of safety valves one 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 4' 5" length 4' 3" description of riveting Single riveted lapsThickness of shell plates 3/16" diameter of rivet holes 1 3/16" whether punched or drilled Drilled pitch of rivets 2 3/8" lap of plating 2 1/2"per centage of strength of joint 47.6 thickness of crown plates 3/16" stayed by 3 stays 1 3/4" & 1 uptakeDiameter of furnace, top 3' 8" bottom 4 ft length of furnace 3 ft thickness of plates 3/16" description of joint Single lapsThickness of furnace crown plates 3/16" stayed by As above working pressure of shell by rules 82 lbsWorking pressure of furnace by rules 42 lbs diameter of uptake 11" thickness of plates 3/16" thickness of water tubes 3/16"SPARE GEAR. State the articles supplied: Four connecting rod bolts top & bottom, one set coupling bolts, one set of feed & bilge pump valves, with seats, a quantity of assort bolts & nuts, 2 Propeller with studs & nuts—

The foregoing is a correct description,

John & James Thomson Manufacturer.

General Remarks

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

These Engines & Boilers are of good workmanship and materials and are now in good order and safe working condition and eligible in our opinion to be noted in the Register "LLOYD'S M.C." 4/83The sea cocks & valves and stem tubes were fitted before launching at Belfast in a satisfactory manner.James Mollison

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 4/4/1887

To be sent as per margin.

(Travelling Expenses, if any, £ ..)

Committee's Minute

FRIDAY 22 APRIL 1887

DONKEY BOILER

James Mollison
Engineer Surveyor to Lloyd's Register of British & Foreign

Clyde District