

REPORT ON MACHINERY.

Port of Glasgow

MON 18 JUL 1898

Received at London Office 18

No. in Survey held at Glasgow
Reg. Book.Date, first Survey 29th Oct 1897 Last Survey 27th June 1898(Number of Visits 20)on the Screw Steamer "Juno" now "Denevell"Tons } Gross
NetBuilt at St. Glasgow By whom built R. Duncan & Co When built 1898Engines made at Glasgow By whom made Dunsmuir & Jackson when made 1898Boilers made at Glasgow By whom made Dunsmuir & Jackson when made 1898Registered Horse Power Owners George N. Patterson Port belonging to NewcastleNom. Horse Power as per Section 28 156 Is Electric Light fitted NoENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks ThreeDiameter of Cylinders 19"-30 1/2"-50" Length of Stroke 36" Revolutions per minute Diameter of Screw shaft as per rule 9.6"
as fitted 9 3/4"Diameter of Tunnel shaft as per rule 8 1/2" Diameter of Crank shaft journals 9 1/2" Diameter of Crank pin 10" Size of Crank webs 12" x 6 1/2"
as fitted 9 1/8"Diameter of screw 13' 6" Pitch of screw 16' 0" No. of blades 4 State whether moveable No Total surface 49 sq. ft.No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 18" Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 18" Can one be overhauled while the other is at work YesNo. of Donkey Engines Two Sizes of Pumps 5 1/2 x 3 1/2 x 5" 9 x 10 x 10" No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room Three: 2 1/2" dia. In Holds, &c. Forward Hold: Two-2 1/2" dia.After Hold: Two-2 1/2" dia. Tunnel Well: one-2 1/2" dia.No. of bilge injections 1 sizes 4 1/2" Connected to condenser, or to circulating pump C. P. Is a separate donkey suction fitted in Engine room & size Yes: 2 3/4"Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible YesAre all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks BothAre 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 AboveAre 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 YesWhat pipes are carried through the bunkers None How are they protected YesAre all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges YesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock New vessel Is the screw shaft tunnel watertight YesIs it fitted with a watertight door Yes worked from Top platform in Engine roomOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 2435 sq. ft. Is forced draft fitted NoNo. and Description of Boilers One: cylindrical: single ended Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs.Date of test 3/5/98 Can each boiler be worked separately Yes Area of fire grate in each boiler 6 1/2 sq. ft. No. and Description of safety valves toeach boiler Two: Direct Spring Area of each valve 8.29 sq. in. Pressure to which they are adjusted 165 lbs. Are they fittedwith easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork About 12" Mean diameter of boilers 15' 9"Length 11' 0" Material of shell plates Steel Thickness 1 1/8" Description of riveting: circum. seams Lap double long. seams Double Butt ChapsDiameter of rivet holes in long. seams 1 1/8" Pitch of rivets 9' 8" 4 3/8" Lap of plates or width of butt straps 19 1/4"Per centages of strength of longitudinal joint rivets 93 Working pressure of shell by rules 162 lbs. Size of manhole in shell 16" x 12"
plate 85-6Size of compensating ring 34 x 26 x 1 1/8" No. and Description of Furnaces in each boiler 3: Monitors Material Steel Outside diameter 49"Length of plain part top 2' 4" bottom 2' 6" Thickness of plates crown 2' 1 1/2" bottom 2' 1 1/2" Description of longitudinal joint Weld No. of strengthening rings YesWorking pressure of furnace by the rules 164 lbs. Combustion chamber plates: Material Steel Thickness: Sides 5" Back 9" Top 5" Bottom 15"Pitch of stays to ditto: Sides 9 1/8" x 9 1/8" Back 8 1/2" x 8 1/2" Top 9 1/8" x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 161 lbs.Material of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 68 sq. in. Working pressure by rules 134 lbs. End plates in steam space:Material Steel Thickness 1" Pitch of stays 16 1/2" x 16 1/2" How are stays secured Double nuts Working pressure by rules 165 lbs. Material of stays SteelDiameter at smallest part 2 3/8" Area supported by each stay 268 sq. in. Working pressure by rules 192 lbs. Material of Front plates at bottom SteelThickness 5/8" Material of Lower back plate Steel Thickness 1 3/8" Greatest pitch of stays 14 1/2" Working pressure of plate by rules 164 lbs.Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 1/8" Material of tube plates Steel Thickness: Front 13" Back 13" Mean pitch of stays 11 1/4"Pitch across wide water spaces 14 1/2" Working pressures by rules 216 lbs. 170 lbs. Girders to Chamber tops: Material Steel Depth andthickness of girder at centre 6 1/2" x 24" Length as per rule 21 1/2" Distance apart 8' Number and pitch of Stays in each 2: 9 1/8"Working pressure by rules 164 lbs. Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

DONKEY BOILER— Description *Vertical with four cross water tubes.*
 Made at *Stockton* By whom made *Riley Bros.* When made *27/5/98* Where fixed *In Stokehold.*
 Working pressure *80 lbs* Tested by hydraulic pressure to *160 lbs.* No. of Certificate *1707.* Fire grate area *21.6* Description of safety valves *Direct Spring.*
 No. of safety valves *one* Area of each *110 sq. in.* Pressure to which they are adjusted *82 lbs.* If fitted with easing gear *Yes.* If steam from main boilers can enter the donkey boiler *No.* Diameter of donkey boiler *6' 6"* Length *14' 6"* Material of shell plates *Steel.* Thickness *3/16"*
 Description of riveting long. seams *Lap Double riveted.* Diameter of rivet holes *5/16"* Whether punched or drilled *punched* Pitch of rivets *3 1/4"*
 Lap of plating *1/4"* Per centage of strength of joint Rivets *82* Thickness of shell crown plates *1 1/2"* Radius of do. *5 ft.* No. of Stays to do. *4*
 Dia. of stays. *1 1/2"* Diameter of furnace Top *4' 11"* Bottom *5' 6 1/2"* Length of furnace *5' 3 1/2"* Thickness of furnace plates *1 1/2"* Description of joint *Lap.* Thickness of furnace crown plates *1 1/2"* Stayed by *As above* Working pressure of shell by rules *88 lbs.*
 Working pressure of furnace by rules *84 lbs.* Diameter of uptake *18"* Thickness of uptake plates *3/16"* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *2 Main Bearing Bolts, 2 Cross head Bolts, 2 Crank pin Bolts, 1 set Coupling Bolts, 1 set Feed & Bilge pump valves, 1 set piston Spring, Bolts, Nuts & Iron granule sizes.*

The foregoing is a correct description,

Manufacturer.

D. Mansfield & Jackson

Dates of Survey { During progress of work in shops— *1897 Oct. 29. Nov. 19. 24. 29. Dec. 9. 14. — 1898 Jan. 11. 20. 24. Feb. 1. 10. 15. 24. March 1. 7. 18.*
 while building { During erection on board vessel — *April 1. 13. 19. 26. May 3. 11. 17. 24. June 6. 13. 16. 24. 27.*
 Total No. of visits *29.*

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

*The Engines and Boilers of this vessel have been built under special survey and the materials and workmanship are good. The machinery is now in good and efficient condition throughout and eligible in my opinion to have the notation of **L.M.C.Y. 98.** marked in the Society's Register Book.*

It is submitted that
 this vessel is eligible for
THE RECORD. *L.M.C. 98*

HJ
18/7/98

The amount of Entry Fee. £ *2* : : : When applied for,
 Special . . . £ *23* : *8* : : *13. 7. 18. 18. 18.*
 Donkey Boiler Fee . . . £ : : : *15. 7. 18. 18. 18.*
 Travelling Expenses (if any) £ : : : *29. 9. 18.*

Wm. Austin.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. 19 JUL 1898

MACHINERY CERTIFICATE
 WRITTEN.

Assigned

+ L.M.C. 98



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 Foundation

Chargew

Certificate (if required) to be sent to
 The Surveyors are requested not to write on or below the space for Committee's Minute.