

# REPORT ON MACHINERY.

14791

MON. 29 OCT 1888

No. in Survey held at *Newcastle* Date, first Survey *9<sup>th</sup> April* Last Survey *27<sup>th</sup> Sept* 1888  
 Reg. Book *Newcastle* (Number of Visits *19*) Tons *1454*  
 on the *S.S. Sueston*  
 Master *R. Lindale* Built at *Sunderland* By whom built *J. Blumer & Co* When built *1888*  
 Engines made at *Newcastle* By whom made *North Eastern Marine Eng<sup>rs</sup> Ltd* when made *1888*  
 Boilers made at *do* By whom made *do do do* when made *do*  
 Registered Horse Power *130* Owners *Robinson Bros* Port belonging to *Whitby*

**ENGINES, &c.**  
 Description of Engines *Triple expansion on three cranks*  
 Diameter of Cylinders *19.31.51* Length of Stroke *33* No. of Rev. per minute *74* Point of Cut off, High Pressure *.6* Low Pressure *.32*  
 Diameter of Screw shaft *9 1/2* Diam. of Tunnel shaft *9* Diam. of Crank shaft journals *9 1/2* Diam. of Crank pin *9 1/2* size of Crank webs *11 x 6 1/2*  
 Diameter of screw *12.0* Pitch of screw *13.6* No. of blades *4* state whether moveable *do* total surface *49 ft*  
 No. of Feed pumps *2* diameter of ditto *3* Stroke *18* Can one be overhauled while the other is at work *ye*  
 No. of Bilge pumps *2* diameter of ditto *3* Stroke *18* Can one be overhauled while the other is at work *ye*  
 Where do they pump from *Port from port bilge - Starboard from bilges & tunnel*  
 No. of Donkey Engines *two* Size of Pumps *6 x 9 and 3 x 4 1/2* Where do they pump from *Ballast tank from bilge & 3 well and tanks - feed from hotwell - sea bilge suction.*  
 Are all the bilge suction pipes fitted with roses *ye* Are the roses always accessible *ye* Are the sluices on Engine room bulkheads always accessible *ye*  
 No. of bilge injections *one* and sizes *3* Are they connected to condenser, or to circulating pump *ye*  
 How are the pumps worked *by levers over condenser from end engine.*  
 Are all connections with the sea direct on the skin of the ship *ye* Are they Valves or Cocks  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *ye* Are the discharge pipes above or below the deep water line *all below*  
 Are they each fitted with a discharge valve always accessible on the plating of the vessel *ye* Are the blow-off cocks fitted with a spigot and brass covering plate  
 What pipes are carried through the bunkers *none* How are they protected *ye*  
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *ye*  
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges *ye*  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *new vessel*  
 Is the screw shaft tunnel watertight *ye* and fitted with a sluice door *ye* worked from *top platform*

**BOILERS, &c.**  
 Number of Boilers *One* Description *Cyl. Single-ended* Whether Steel or Iron *Steel*  
 Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs* Date of test *August 4<sup>th</sup> 1888*  
 Description of superheating apparatus or steam chest *none*  
 Can each boiler be worked separately *ye* Can the superheater be shut off and the boiler worked separately *ye*  
 No. of square feet of fire grate surface in each boiler *524 ft* Description of safety valves *sprung* No. to each boiler *two*  
 Area of each valve *8.37* Are they fitted with easing gear *ye* No. of safety valves to superheater *ye* area of each valve *ye*  
 Are they fitted with casing gear *ye* Smallest distance between boilers and bunkers or woodwork *12* Diameter of boilers *14.0*  
 Length of boilers *10.10* description of riveting of shell long. seams *all both 1/2* circum. seams *all* Thickness of shell plates *1 3/4*  
 Diameter of rivet holes *1 1/16* whether punched or drilled *all* pitch of rivets *4* Lap of plating *14 x 1*  
 Per centage of strength of longitudinal joint *79.4* working pressure of shell by rules *157* size of manholes in shell *12 x 16*  
 Size of compensating rings  
 Outside diameter *30 1/2* length, top *Pass* bottom *flue* thickness of plates *1/2* description of joint *ye* if rings are fitted *ye*  
 Greatest length between rings *ye* working pressure of furnace by the rules *160* combustion chamber plating, thickness, sides *9/16* back *9/16* top *9/16*  
 Pitch of stays to ditto, sides *7 1/2* back *7 3/4* top *7 1/2* If stays are fitted with nuts or riveted heads *cast* working pressure of plating by rules *162* Diameter of stays at smallest part *1 3/8* working pressure of ditto by rules *186* end plates in steam space, thickness *1 1/16*  
 Pitch of stays to ditto *15* how stays are secured *all new* working pressure by rules *160* diameter of stays *ye*  
 smallest part *2 1/4* working pressure by rules *159* Front plates at bottom, thickness *3/4* Back plates, thickness *3/4*  
 Greatest pitch of stays *11 1/2* working pressure by rules *160* Diameter of tubes *3 1/4* pitch of tubes *4 1/2* thickness of tube plates, front *3/4* back *3/4* how stayed tubes *ye* pitch of stays *9* width of water spaces *5 1/2*  
 Diameter of Superheater or Steam chest *ye* length *ye* thickness of plates *ye* description of longitudinal joint *ye* diam. of rivet holes *ye*  
 Pitch of rivets *ye* working pressure of shell by rules *ye* diameter of flue *ye* thickness of plates *ye* If stiffened with rings *ye*  
 Distance between rings *ye* working pressure by rules *ye* end plates of superheater, or steam chest; thickness *ye* how stayed Superheater or steam chest; how connected to boiler

Report recd 1/10/88 sent to ton.

**DONKEY BOILER**— Description *Vertical H + tube (steel)*  
 Made at *Satishead* by whom made *Clark Chapman Parsons Co* when made *22-9-88* where fixed *stockhold*  
 Working pressure *80lb* tested by hydraulic pressure to *100lb* No. of Certificate *2614* fire grate area *14sq* description of safety  
 valves *direct spring* No. of safety valves *one* area of each *11.040* if fitted with easing gear *yes* if steam from main boilers can  
 enter the donkey boiler *no* diameter of donkey boiler *5.9* length *13.6* description of riveting *al*  
 Thickness of shell plates *13/32* diameter of rivet holes *13/16* whether punched or drilled *a* pitch of rivets *3* lap of plating *4 1/2*  
 per centage of strength of joint *72* thickness of crown plates *9/16* stayed by *5 stays 1 1/16*  
 Diameter of furnace, top *4.6 1/8* bottom *4.11* length of furnace *5.8* thickness of plates *9/16* description of joint *al*  
 Thickness of furnace crown plates *1/2* stayed by *as crown* working pressure of shell by rules *91*  
 Working pressure of furnace by rules *88* diameter of uptake *1 1/4* thickness of plates *3/8* thickness of water tubes *3/8*

**SPARE GEAR.** State the articles supplied: *Top and bottom end connecting rod bolts & nuts*  
*two main bearing bolts, one set of coupling bolts, feed and bilge pump*  
*valves, bolts, nuts & iron assorted, propeller.*

The foregoing is a correct description,  
 for *North Eastern Marine Engineering Coy. Ltd*  
*M. Strington* Manufacturer.

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has*  
*been constructed under special survey the materials and workmanship*  
*are sound and good and eligible on completion, in my opinion, to be*  
*classed + L.M.C. 10-88 in the Society's Register Book.*

*The vessel has proceeded to Sunderland where the following*  
*details will be completed viz. fitting, framing & starting under steam of*  
*donkey boiler, tunnel system and examination of Spare Gear.*  
*On the vessel's arrival at Sunderland the above mentioned work*  
*has been satisfactorily finished and spare gear supplied*  
*P. M. Salmon*

*It is submitted that*  
*this vessel is eligible*  
*to have + S.M.C. 10-88*  
*recorded*

*[Large blue circular stamp]*

The amount of Entry Fee *£ 2* : - : - received by me,  
 Special *£ 19* : *10* : - *at Sunderland*  
 Donkey Boiler Fee *£* : - : - *Office*  
 Certificate (if required) *£ gratis* : 25 Oct. 1888.  
 (To be sent as per margin.)  
 (Travelling Expenses, if any, £ )

*John P. Walker*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 + *dn 10/10/88*  
 TUES 30 OCT 1888

