

H. 864 No. 10374.  
(Dec) 35512

## REPORT ON MACHINERY.

Port of NEWCASTLE-ON-TYNE  
 Survey held at South Shields & W. W. Pool Date, first Survey July 16 1897 Last Survey Oct. 15 1897  
 Book. S. S. Winston (Number of Visits 12)  
 on the S. S. Winston Gross 1190  
 Tons Net 743  
 Built at Hartlepool By whom built H. Gray & Co. Ltd. When built 1896  
 Engines made at Hartlepool By whom made J. Richardson & Son when made 1896  
 Boilers made at South Shields By whom made J. L. Ellingham & Co. when made 2-10-97  
 Registered Horse Power 136 Owners H. Johnson & Co. Port belonging to H. Hartlepool  
 Horse Power as per Section 28 136 Is Electric Light fitted No

INES, &c.—Description of Engines  
 Diameter of Cylinders as per rule Length of Stroke as per rule No. of Cylinders as per rule No. of Cranks as per rule  
 Diameter of Tunnel shaft as fitted Diameter of Crank shaft journals as fitted Diameter of Crank pin as fitted Size of Crank webs as fitted  
 Diameter of screw as fitted Pitch of screw as fitted No. of blades as fitted State whether moveable as fitted Total surface as fitted  
 Diameter of Feed pumps as fitted Diameter of ditto as fitted Stroke as fitted Can one be overhauled while the other is at work as fitted  
 Diameter of Bilge pumps as fitted Diameter of ditto as fitted Stroke as fitted Can one be overhauled while the other is at work as fitted  
 Diameter of Donkey Engines as fitted Sizes of Pumps as fitted No. and size of Suctions connected to both Bilge and Donkey pumps as fitted  
 Engine Room as fitted In Holds, &c. as fitted

of bilge injections as fitted sizes as fitted Connected to condenser, or to circulating pump as fitted Is a separate donkey suction fitted in Engine room & size as fitted  
 All the bilge suction pipes fitted with roses as fitted Are the roses in Engine room always accessible as fitted Are the sluices on Engine room bulkheads always accessible as fitted  
 All connections with the sea direct on the skin of the ship as fitted Are they Valves or Cocks as fitted  
 They fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates as fitted Are the discharge pipes above or below the deep water line as fitted  
 They each fitted with a discharge valve always accessible on the plating of the vessel as fitted Are the blow off cocks fitted with a spigot and brass covering plate as fitted  
 Pipes are carried through the bunkers as fitted How are they protected as fitted  
 All pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times as fitted  
 The bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges as fitted  
 Were stern tube, propeller, screw shaft, and all connections examined in dry dock as fitted Is the screw shaft tunnel watertight as fitted  
 Fitted with a watertight door as fitted worked from as fitted

CLERS, &c.— (Letter for record (S) ) Total Heating Surface of Boilers 1964 Is forced draft fitted No  
 and Description of Boilers Double Working Pressure 100 lbs Tested by hydraulic pressure to 200 lbs  
 of test 2/10/97 Can each boiler be worked separately Yes Area of fire grate in each boiler 62 No. and Description of safety valves to 2  
 boiler Inv. Spring direct Area of each valve 4.07 Pressure to which they are adjusted 9.5 lbs Are they fitted Yes  
 easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 2'-8" Mean diameter of boilers 13 1/4"  
 of 14-6" Material of shell plates Steel Thickness 3/8" Description of riveting: circum. seams lap & r. long. seams lap 3 rows  
 Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 4 1/4" Lap of plates or width of butt straps 4 1/2"  
 Percentages of strength of longitudinal joint 78 Working pressure of shell by rules 100 lbs Size of manhole in shell 16 x 12"  
 of compensating ring 7 x 1 1/4" No. and Description of Furnaces in each boiler 4 plain Material Steel Outside diameter 38"  
 of plain part top 13" Thickness of plates crown 1/2" Description of longitudinal joint lap & r. No. of strengthening rings 1  
 Working pressure of furnace by the rules 105 Combustion chamber plates: Material Steel Thickness: Sides 1 1/2" Back 1 1/2" Top 1 1/2" Bottom 9/16"  
 of stays to ditto: Sides 10 1/2" Back 8 1/2" Top 10 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 110 lbs  
 Material of stays Steel Diameter at smallest part 1 1/32" Area supported by each stay 110 1/2" Working pressure by rules 102 lbs End plates in steam space: Steel  
 Material Steel Thickness 1 5/16" Pitch of stays 18 x 24" How are stays secured on riv. Working pressure by rules 109 Material of stays Steel  
 Diameter at smallest part 2 1/32" Area supported by each stay 378 5/8" Working pressure by rules 109 lbs Material of Front plates at bottom Steel  
 Thickness 4" Material of Lower back plate Steel Thickness 8 1/2" Greatest pitch of stays 8 1/2" Working pressure of plate by rules 109  
 Diameter of tubes 2 1/4" Pitch of tubes 4 x 3 7/8" Material of tube plates Steel Thickness: Front 1 5/16" Back 7/8" Mean pitch of stays 10  
 across wide water spaces 13 1/2" Working pressures by rules 80 lbs Girders to Chamber tops: Material Steel Depth and 10 1/2"  
 Weight of girder at centre 4 x 1 1/4 x 24" Length as per rule 36" Distance apart 10 1/2" Number and pitch of Stays in each 2: 10 1/2"  
 Working pressure by rules 107 Steam chest; how connected to boiler Riv. Can the superheater be shut off and the boiler worked Yes  
 Diameter 36" Length 0 4 1/2" Thickness of shell plates 3/8" Material Steel Description of longitudinal joint lap & r. Diam. of rivet 7/8"  
 Pitch of rivets 2 1/4" Working pressure of shell by rules 120 Diameter of flue 10 1/2" Material of flue plates Steel Thickness 9/16"  
 Fitted with rings Yes Distance between rings 10 1/2" Working pressure by rules 109 End plates: Thickness 9/16" How stayed Spring  
 Working pressure of end plates 109 Area of safety valves to superheater 109 Are they fitted with easing gear Yes



**DONKEY BOILER—** Description *Vertical with three cross tubes.*  
 Made at *Stockton* By whom made *Sudron & Co. (Ltd)* When made *1897* Where fixed *Slope hold*  
 Working pressure *80 lbs.* tested by hydraulic pressure to *160 lbs.* No. of Certificate *1567* Fire grate area *14.6 sq.* Description of safety valves *Spring direct*  
 No. of safety valves *2* Area of each *5.94 sq.* Pressure to which they are adjusted *80 lbs.* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *6'-0"* Length *12'-6"* Material of shell plates *steel* Thickness *1 3/32"*  
 Description of riveting long. seams *double riv. lap.* Diameter of rivet holes *1 3/8"* Whether punched or drilled *punched* Pitch of rivets *2 1/4"*  
 Lap of plating *4 1/2"* Per centage of strength of joint Rivets *79* Thickness of shell crown plates *1 1/2"* Radius of do. *5'-0"* No. of Stays to do. *6*  
 Dia. of stays *1 1/8" off.* Diameter of furnace Top *4'-10"* Bottom *5'-3"* Length of furnace *5'-3"* Thickness of furnace plates *1 1/2"* Description of joint *lap* Thickness of furnace crown plates *9/16"* Stayed by *same as shell* Working pressure of shell by rules *95*  
 Working pressure of furnace by rules *90 lbs.* Diameter of uptake *14"* Thickness of uptake plates *7/16"* Thickness of water tubes *3/8"*

**SPARE GEAR.** State the articles supplied :—

The foregoing is a correct description,  
*M. I. R. Thompson* Manufacturer. *Main boiler.*

Dates of Survey { During progress of work in shops - - -  
 while building { During erection on board vessel - - -  
 Total No. of visits - - -  
*- 1897 - July 16 Aug 4 13 20 30 Sep 15 21 Oct 2 11 12 13 15.*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The main boiler has been built under special survey. The materials and workmanship are good, and have been tested as required by the rules. The work in connection with fitting these boilers on board, has been satisfactorily completed.*

WEST HARTLEPOOL

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

The amount of Entry Fee. . . £ : : When applied for.  
 Special . . . . . £ 4 : 18 : 11. 10. 3/4 18/10/97  
 Donkey Boiler Fee . . . . £ : : When received. 18/10/97  
 Travelling Expenses (if any) £ : :  
 MACHINERY TESTED

Committee's Minute **TUES. 19 OCT 1897**  
 Assigned

*J. Smith*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.