

REPORT ON MACHINERY.

No. 216463

Port of *Sunderland*

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(Number of Visits)

on the Steel Screw Steamer *'Shadwell'*Master *J. Joinson*Built at *Sunderland*By whom built *J. Thompson & Sons, Ltd.*Gross Tons *4091*Net Tons *2593*When built *1903-14*Engines made at *Sunderland*By whom made *The North Eastern Mar. & C. Co. Ltd.*when made *1903-14*Boilers made at *Sunderland*By whom made *do*when made *1903-14*

Registered Horse Power

Owners *(Erack Branfoot)*Port belonging to *Sunderland*Nom. Horse Power as per Section 28 *417*Is Refrigerating Machinery fitted *No*Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines *Tri Comp. Surf. condensing* No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *26" 44" x 72"* Length of Stroke *48* Revs. per minute *70* Dia. of Screw shaft *as per rule 14 7/8"* Material of screw shaft *W.S.*
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *Yes* Is the after end of the liner made water tight
 in the propeller boss *Yes* If the liner is in more than one length are the joints burned *✓* If the liner does not fit tightly at the part
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *No* If two
 liners are fitted, is the shaft lapped or protected between the liners *✓* Length of stern bush *5'-4 1/2"*
 Dia. of Tunnel shaft *as per rule 13.09"* Dia. of Crank shaft journals *as per rule 13.75"* Dia. of Crank pin *14"* Size of Crank webs *22" x 8 1/2"* Dia. of thrust shaft under
 collars *14"* Dia. of screw *18'-0"* Pitch of screw *18'-0"* No. of blades *4* State whether moveable *No* Total surface *98 sq ft*
 No. of Feed pumps *2* Diameter of ditto *3 1/4"* Stroke *24"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *4 1/2"* Stroke *24"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *2* Sizes of Pumps *6" x 4" x 6" & 7 1/2" x 9 1/2" x 10 1/2"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *4 of 3 1/2"* In Holds, &c. *2 of 3 1/2" in each hold + 3 1/2" to*
Hold + tunnel well
 No. of bilge injections *1 size 5 1/2"* Connected to condenser, or to circulating pump *CP* Is a separate donkey suction fitted in Engine room & size *Yes 3 1/2"*
 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 *Yes*
 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*
 What pipes are carried through the bunkers *None* How are they protected *✓*
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *Yes*
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *(New) Yes* Is the screw shaft tunnel watertight *Yes*
 Is it fitted with a watertight door *Yes* worked from *Main deck*

BOILERS, &c.—(Letter for record *S*) Total Heating Surface of Boilers *6789 sq ft* Is forced draft fitted *No*
 No. and Description of Boilers *2 Ordinary marine type* Working Pressure *180* Tested by hydraulic pressure to *360*
 Date of test *25/9/03* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *60.5* No. and Description of safety valves to
 each boiler *2 Spring* Area of each valve *7.07* Pressure to which they are adjusted *180* Are they fitted with easing gear *Yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *15"* Mean dia. of boilers *4'-6 1/2"* Length *11'-6"* Material of shell plates *S*
 Thickness *1 1/2"* Range of tensile strength *29-33* Are they welded or flanged *No* Descrip. of riveting: cir. seams *Dr. L.* long. seams *Dr. L.*
 Diameter of rivet holes in long. seams *1 1/16"* Pitch of rivets *8 5/16"* Lap of plates or width of butt straps *17 3/4"*
 Per centages of strength of longitudinal joint *85.7* Working pressure of shell by rules *180.89* Size of manhole in shell *16" x 12"*
 Size of compensating ring *flanged* No. and Description of Furnaces in each boiler *3 Doughtons* Material *S* Outside diameter *3'-10" at mouth*
 Length of plain part *top 20' 7.5"* Thickness of plates *crown 1 1/2"* Description of longitudinal joint *Welded* No. of strengthening rings *✓*
 Working pressure of furnace by the rules *207.5* Combustion chamber plates: Material *S* Thickness: Sides *3/32"* Back *3/32"* Top *3/32"* Bottom *1"*
 Pitch of stays to ditto: Sides *9" x 10 3/4"* Back *9 3/4" x 10"* Top *8" x 10 1/2"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *181.6*
 Material of stays *S* Diameter at smallest part *2.1* Area supported by each stay *97.5* Working pressure by rules *193* End plates in steam space:
 Material *S* Thickness *1 1/32"* Pitch of stays *18 3/8" x 21"* How are stays secured *n + w.* Working pressure by rules *180.6* Material of stays *S*
 Diameter at smallest part *7.24* Area supported by each stay *385.8* Working pressure by rules *187* Material of Front plates at bottom *S*
 Thickness *3/16"* Material of Lower back plate *S* Thickness *3/16"* Greatest pitch of stays *9 1/4" x 12 1/2"* Working pressure of plate by rules *181 lbs.*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2" x 4 1/2"* Material of tube plates *S* Thickness: Front *3/16"* Back *3/16"* Mean pitch of stays *9" x 9"*
 Pitch across wide water spaces *13 1/2"* Working pressures by rules *249* Girders to Chamber tops: Material *S* Depth and
 thickness of girder at centre *9" x 2 1/4"* Length as per rule *24.5* Distance apart *10 1/2"* Number and pitch of Stays in each *3 of 8"*
 Working pressure by rules *187.9* 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 *✓*