

# REPORT ON MACHINERY.

No. 362

(Received in London Office 2/14/80 1880)

No. in Reg. Book. 405 Survey held at Newcastle Date, first Survey 5<sup>th</sup> Jan'y Last Survey 24<sup>th</sup> July 1880  
 on the Screw steamer Pickwick Tons 431  
 Master J. Rhoades Built at Sunderland When built 1871  
 Engines made at Sunderland By whom made N.B. Marine Co. Ld. when made 1871  
 Boilers made at Newcastle By whom made The Wallsend Shipyard & Co. when made 1880  
 Registered Horse Power 100 Owners G. Bell & Co. Port belonging to N. Shields

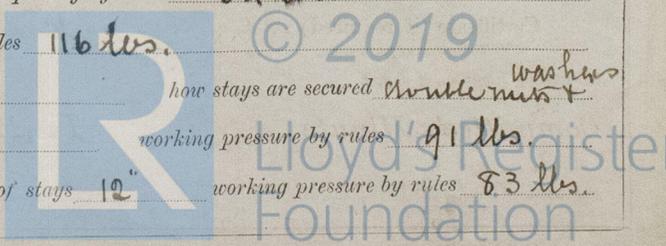
**ENGINES, &c.—**

Description of Engines Inverted Compound surface Condensing  
 Diameter of Cylinders 27" & 50" Length of Stroke 30" No. of Rev. per minute 65 Point of Cut off, High Pressure .5 Low Pressure .5  
 Diameter of Screw shaft 8 1/2" Diameter of Tunnel shaft 8 1/2" Diameter of Crank shaft journals 8 1/2" Diameter of Crank pin 8 1/2" size of Crank webs 6x10"  
 Diameter of screw 12.0" Pitch of screw 15" 6" No. of blades 4 state whether moveable solid total surface —  
 No. of Feed pumps 2 diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work yes.  
 No. of Bilge pumps 2 diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work yes.  
 Where do they pump from fore hold, engine room, tunnel well and after hold  
 No. of Donkey Engines two Size of Pumps 5 1/4 x 7 stroke Where do they pump from fore hold, engine room  
tunnel well, after hold & sea 7 1/2 x 10 "  
 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 1 and sizes 3 1/2" Are they connected to condenser, or to circulating pump circulating.  
 How are the pumps worked from engine crossheads (direct)  
 Are all connections with the sea direct on the skin of the ship yes. Are they Valves or Cocks screw valves and cocks.  
 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 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.  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock July 1880  
 Is the screw shaft tunnel watertight — and fitted with a sluice door yes. worked from engine room top platform

**BOILERS, &c.—**

Number of Boilers 2 Description Cylindrical & multitubular.  
 Working Pressure 75 lbs. Tested by hydraulic pressure to 150 lbs. Date of test 24.2.80.  
 Description of ~~superheater~~ steam chest vertical dome contracted neck.  
 Can each boiler be worked separately yes. Can the superheater be shut off and the boiler worked separately —  
 No. of square feet of fire grate surface in each boiler 36 sq. ft Description of safety valves spring.  
 No. to each boiler 2 area of each valve 9.6 sq. in. Are they fitted with casing gear yes.  
 No. of safety valves to superheater — area of each valve — are they fitted with casing gear —  
 Smallest distance between boilers and bunkers or woodwork 12"  
 Diameter of boilers 10" 6" Length of boilers 9.7" description of riveting of shell long. seams double butt circum. seams lap. double riveted.  
 Thickness of shell plates 11/16" diameter of rivet holes 15/16" whether punched or drilled drilled pitch of rivets 4"  
 Lap of plating 10" per centage of strength of longitudinal joint 78 working pressure of shell by rules 86  
 Size of manholes in shell 11 1/2" x 15" size of compensating rings 6 x 1"  
 No. of Furnaces in each boiler 2 outside diameter 36" length, top 6" 6" bottom 8" 3"  
 Thickness of plates 1/2" description of joint double butt if rings are fitted one greatest length between rings 6" 0"  
 Working pressure of furnace by the rules 100 lbs.  
 Combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"  
 Pitch of stays to ditto ✓ sides 8 3/4" back 8 3/4" top 21" Radins  
 If stays are fitted with nuts or riveted heads riveted heads working pressure of plating by rules 84 lbs.  
 Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 116 lbs.  
 End plates in steam space, thickness 3/4" pitch of stays to ditto 17 1/2" x 16 3/4" how stays are secured double nut & washers  
 Working pressure by rules 75 lbs. diameter of stays at smallest part 2 3/8" working pressure by rules 91 lbs.  
 Front plates at bottom, thickness 5/8" Back plates, thickness 5/8" greatest pitch of stays 12" working pressure by rules 83 lbs.

Form No. 8, 2000 (8/1/80)



LRN495-0213

Report recd 27/7/80 sent to Lon 28/7/80

2787.1 Jan

Diameter of tubes  $3\frac{1}{4}$ " pitch of tubes  $4\frac{1}{2}$ " thickness of tube plates, front  $\frac{3}{4}$ " back  $\frac{3}{4}$ "  
 How stayed Tube Stays pitch of stays  $13\frac{1}{2} \times 9$ " width of water spaces  $1\frac{1}{4}$ "  
 Diameter of ~~Superheater~~ Steam chest  $3\text{ } 9$ " length  $5\text{ } 6$ "  
 Thickness of plates  $\frac{1}{2}$ " description of longitudinal joint lap double diameter of rivet holes  $\frac{3}{4}$ " pitch of rivets  $2\frac{1}{2}$ "  
 Working pressure of shell by rules 120 lbs. Diameter of flue \_\_\_\_\_ thickness of plates \_\_\_\_\_  
 If stiffened with rings \_\_\_\_\_ distance between rings \_\_\_\_\_ Working pressure by rules \_\_\_\_\_  
 End plates ~~of superheater or steam chest~~; thickness  $\frac{5}{8}$ " How stayed  $3\text{ } 9$  radius  
 Superheater ~~of steam chest~~; how connected to boiler contracted neck  $16$ " diam.  $\frac{5}{8}$ " thick

**DONKEY BOILER**— Description vertical and cylindrical  
 Made at Newcastle By whom made Clarke, Chapman & Gurney when made July 1880  
 Where fixed Stokehold working pressure 50 lbs. Tested by hydraulic pressure to 100 lbs. No. of Certificate 387.  
 Fire grate area 18 sq. ft. Description of safety valves spring No. of safety valves 1 area of each 7 sq. ins.  
 If fitted with easing gear y.w. If steam from main boilers can enter the donkey boiler ✓  
 Diameter of donkey boiler  $5\text{ } 6$ " length  $12\text{ } 6$ " description of riveting long seams double riveted  
 thickness of shell plates  $\frac{3}{8}$ " diameter of rivet holes  $\frac{3}{4}$ " whether punched or drilled punched  
 pitch of rivets 3" lap of plating  $4\frac{1}{4}$ " per centage of strength of joint 70  
 thickness of crown plates  $7\frac{1}{16}$ " stayed by 5,  $1\frac{1}{4}$ " Stays  
 Diameter of furnace, top  $4\text{ } 2\frac{1}{2}$ " bottom  $4\text{ } 11$ " length of furnace  $5\text{ } 5$ "  
 thickness of plates  $7\frac{1}{16}$ " description of joint lap, single riveted  
 thickness of furnace crown plates  $7\frac{1}{16}$ " stayed by 5,  $1\frac{1}{4}$ " Stays  
 Working pressure of shell by rules 61 lbs. working pressure of furnace by rules 54 lbs.  
 diameter of uptake 15" thickness of plates  $\frac{3}{8}$ " thickness of water tubes  $\frac{3}{8}$ "

Aug 2/80  
 The foregoing is a correct description  
 for the Wallsend Slipway & Engineering Co. Ltd  
 Manufacturers.  
 W. Lloyd Smith

**General Remarks** (State quality of workmanship, opinions as to class, &c. Particulars of repairs and examination of) engines in accordance with the requirements of the Rules for Special Surveys No. 2 and new main boilers and donkey boiler being fitted, vessel was placed on the Wallsend Slip, a new propeller shaft fitted and stern bush relined; engine shaft examined and found good; blow off cocks removed from flat of bottom up to turn of bilge; high and low pressure cylinders overhauled slide valves freed and adjusted, condenser examined & overhauled; all pumps, valves, pipe connections and donkey engines & pumps examined & repaired.  
 Two new main boilers supplied by The Wallsend Slipway & Engineering Co. Ltd and fitted on board; the tracing of which was approved by the Committee for a working pressure of 75 lbs. per square inch. Two new spring safety valves fitted and adjusted on each boiler. A new donkey boiler fitted on board by The Wallsend Slipway Co. Ltd and manufactured by Clarke Chapman & Gurney. a new spring safety valve fitted & adjusted

The machinery of this vessel is now in good order and safe working condition and eligible in my opinion to have the notification Lloyd's M.B. in red recorded in the Register Book.

This submitted that this vessel is eligible to have the notification N.B. 80. Lloyd's M.B. recorded in the Register Book.  
 M 2/10/80

The amount of Entry Fee £ 2 : - : - received by me,  
 Special £ 4 : 4 : -  
 Certificate (if required) £ - : - : - 30<sup>th</sup> Sept 1880  
 (Travelling Expenses, if any, £ -)

Committee's Minute Tuesday, October, 5th 1880.

David Surves  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

North Shields  
 Lloyd's Register Foundation