

REPORT ON MACHINERY.

Received at London Office 24th Sept 1883

No. in Survey held at *Hurcastle* Date, first Survey *24th Sept 1883* Last Survey *31 March 1884*
 Book. *17553* (Number of Visits *21*) Tons *2517*
 on the *Screw Steamer* *Port Navan* When built *1884*
 Built at *Hurcastle* By whom built *H. Leslie & Co*
 By whom made *Sup. R. M. Hawthorn* when made *1884*
 By whom made *do* when made *1884*
 Owners *Anglo Australasian Ste. Nav. Co.* Port belonging to *London*
 Registered Horse Power *350*

GINES, &c.—

Description of Engines *Nicot acting compound Surface condensing*
 Diameter of Cylinders *38" & 70"* Length of Stroke *45"* No. of Rev. per minute *65* Point of Cut off, High Pressure *.6* Low Pressure *.52*
 Diameter of Screw shaft *12 1/2"* Diam. of Tunnel shaft *12"* Diam. of Crank shaft journals *12 1/2"* Diam. of Crank pin *12 1/2"* size of Crank webs *15 1/2" x 8"*
 Diameter of screw *16.3"* Pitch of screw *21.0" & 18.0"* No. of blades *4* state whether moveable *no* total surface *70 Sqft*
 of Feed pumps *2* diameter of ditto *3 3/4"* Stroke *22 1/2"* Can one be overhauled while the other is at work *yes*
 of Bilge pumps *2* diameter of ditto *3 3/4"* Stroke *22 1/2"* Can one be overhauled while the other is at work *yes*
 Where do they pump from *Fore holds, afters, hot well, bilges & sea* Where do they pump from *Fore holds, bilges*
 of Donkey Engines *2* Size of Pumps *8" x 14" & 4" x 8"*
 Are the roses always accessible *yes* Are the sluices on Engine room bulkheads always accessible *yes*
 Are they connected to condenser, or to circulating pump *Circulating pump*
 Are the valves or Cocks *both*
 Are the discharge pipes above or below the deep water line *above*
 Are the blow off cocks fitted with a spigot and brass covering plate *yes*
 How are they protected *none*
 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*
 Then were stern tube, propeller, screw shaft, and all connections examined in dry dock *yes*
 the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *upper platform*

BOILERS, &c.—

Number of Boilers *2* Description *Cylindrical Single end* Whether Steel or Iron *Steel*
 Working Pressure *100 lb* Tested by hydraulic pressure to *200 lb* Date of test *30.1.84. No of Cyl-1576*
 Description of superheating apparatus or steam chest *none*
 Can each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *yes*
 No. of square feet of fire grate surface in each boiler *63* Description of safety valves *Spring* No. to each boiler *2*
 Area of each valve *16.8* Are they fitted with easing gear *yes* No. of safety valves to superheater *1* area of each valve *15.3"*
 Are they fitted with easing gear *yes* Smallest distance between boilers and bunkers or woodwork *3.0"* Diameter of boilers *15.3"*
 Length of boilers *10.6"* description of riveting of shell long. seams *lap double* circum. seams *lap double* Thickness of shell plates *1 1/4"*
 Diameter of rivet holes *1 5/8"* whether punched or drilled *drilled* pitch of rivets *6 1/2"* Lap of plating *11 1/4"*
 Percentage of strength of longitudinal joint *75%* working pressure of shell by rules *101 lb* size of manholes in shell *15" x 12"*
 Size of compensating rings *6" x 1"* No. of Furnaces in each boiler *3*
 Outside diameter *42"* length, top *7.6"* bottom *9.6"* thickness of plates *1 3/8"* description of joint *welded* if rings are fitted *yes*
 Greatest length between rings *3.9"* working pressure of furnace by the rules *100 lb* combustion chamber plating, thickness, sides *1 3/8"* back *1 1/2"* top *1 1/2"*
 Pitch of stays to ditto, sides *7 3/4"* back *8 1/4"* top *1 1/4"* stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *100 lb*
 Diameter of stays at smallest part *1 1/4"* working pressure of ditto by rules *110 lb* and plates in steam space, thickness *1 1/8"*
 Pitch of stays to ditto *16 3/8"* how stays are secured *A. nuts & washers* working pressure by rules *100 lb* diameter of stays at smallest part *5.8"*
 Greatest pitch of stays *11 1/2"* working pressure by rules *118 lb* Front plates at bottom, thickness *3 1/2"* Back plates, thickness *5.8"*
 plates, front *4"* back *3 1/4"* how stayed *tubes* pitch of stays *14 1/4"* width of water spaces *6 1/2"*
 Diameter of Superheater or Steam chest *—* length *—* thickness of plates *—* description of longitudinal joint *—* diam. of rivet holes *—*
 Pitch of rivets *—* working pressure of shell by rules *—* 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 *—* how stayed *—*
 Superheater or steam chest; how connected to boiler *—*

DONKEY BOILER— Description *vertical form crop tubes*
Made at *Gateshead* by whom made *Blake Chapman & Co* when made *18.2.84* where fixed *Stokehold*
Working pressure *75 lb* tested by hydraulic pressure to *150 lb* No. of Certificate *1595* fire grate area *29 ft* description of safety
valves *Spring* No. of safety valves *2* area of each *8.30* if fitted with easing gear *yes* if steam from main boilers can
enter the donkey boiler *no* diameter of donkey boiler *9.0"* length *13.6"* description of riveting *Cap for Riv*
Thickness of shell plates *9/16"* diameter of rivet holes *1"* whether punched or drilled *punched* pitch of rivets *3 3/4"* lap of plating *4"*
per centage of strength of joint *73%* thickness of crown plates *5/8"* stayed by *8 Stays 1 3/4" diam effective*
Diameter of furnace, top *5.8"* bottom *5.11 1/4"* length of furnace *6.2"* thickness of plates *7/8"* description of joint *Cap Single*
Thickness of furnace crown plates *7/16"* stayed by *as above* working pressure of shell by rules *80 lb*
Working pressure of furnace by rules *70 lb* diameter of uptake *18"* thickness of plates *7/16"* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *Half crank shaft, propeller & shaft, 1 pair of bottom &*
& 1 pair of top end brasses, 2 feed & 2 bilge valves & seats, piston patent, 2 main
bearing bolts & nuts, 2 top end bolts & nuts, 1 set of coupling bolts & nuts, 4 rings for three
carriage, set of rubber valves for circulating pump & feed donkey, 12 boiler tubes & a
The foregoing is a correct description, (*2 bottom end bolts & nuts*) quantity of assorted in
W. W. Anthon Manufacturers of main Engines & Boilers.

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel*
has been specially surveyed during construction the material
and workmanship good & under the vessel eligible in my
opinion to have the notification L. M. C. 3. 84 *in the*
Register Book of the Society.

This submitted that this
vessel is eligible to have
the notification
recorded *M. 1/5/84*

The amount of Entry Fee .. £ 3 : - : - received by me,
Special .. *W.M.C.* £ 37 : 10 : - *Paid Vade*
Donkey Boiler Fee .. £ - : - : - *Lt. M. W. S.*
Certificate (if required) *gradi* .. - : - : - 18
To be sent as per margin.

(Travelling Expenses, if any, £ - : - : -)

Committee's Minute

FRIDAY 9 MAY 1884

+ L. M. W. S.

Richard Hirst
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

