

REPORT ON MACHINERY.

5917

No. 5917 (Received at London Office RECEIVED 20 NOV. 82.)
 No. in Survey held at Dumbarton Date, first Survey 3.4.82 Last Survey 23.11.1882
 Reg. Book. " (Number of Visits 1909.54)
— on the S.S. Tarawera Tons 1268.56
 Master Sinclair Built at Dumbarton When built 1882
 Engines made at Dumbarton By whom made Denny & Co. when made 1882
 Boilers made at " By whom made " when made 1882
 Registered Horse Power 253 Owners Union Co. New Zealand Port belonging to Dunedin

ENGINES, &c.—

Description of Engines Compound inverted direct acting
 Diameter of Cylinders 38" & 168" Length of Stroke 45" No. of Rev. per minute 40 Point of Cut off, High Pressure 7/10" Low Pressure 7/10"
 Diameter of Screw shaft 12 3/16" Diameter of Tunnel shaft 11 1/2" Diameter of Crank shaft journals 12 1/2" Diameter of Crank pin 12 1/2" size of Crank webs 8 1/4" x 15"
 Diameter of screw 14'6" Pitch of screw 18'6" No. of blades 4 state whether moveable yes total surface 52 sq. ft.
 No. of Feed pumps 2 diameter of ditto 4 1/4" Stroke 22 3/4" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 diameter of ditto 4 1/4" Stroke 22 3/4" Can one be overhauled while the other is at work yes
 Where do they pump from Holds, hotwell, engine room & stokeholds
 No. of Donkey Engines two Size of Pumps 10" c 8" p 10st. 8" c 6" p 9st. Where do they pump from Sea holds, hotwell, engine room & stokeholds
 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 5" Are they connected to condenser, or to circulating pump Circulating pump
 How are the pumps worked by eccentrics on crankshaft.
 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 below
 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 before launching
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Upper platform

BOILERS, &c.—

Number of Boilers two Description Cylindrical double-ended multitudinal
 Working Pressure 44 lbs Tested by hydraulic pressure to 148 lbs. Date of test 29.9.82.
 Description of superheating apparatus or steam chest Horizontal
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately no
 No. of square feet of fire grate surface in each boiler 84 sq. ft. Description of safety valves direct spring
 No. to each boiler two area of each valve 21.6 Are they fitted with easing gear yes
 No. of safety valves to superheater " area of each valve " are they fitted with easing gear "
 Smallest distance between boilers and bunkers or ~~woodwork~~ 14"
 Diameter of boilers 11'10 1/4" Length of boilers 16'4" description of riveting of shell long. seams tube lap. circum. seams double lap.
 Thickness of shell plates 3/16" diameter of rivet holes 1 1/8" whether punched or drilled drilled pitch of rivets 4 1/2" x 2 1/2"
 Lap of plating 8 1/2" per centage of strength of longitudinal joint Plain 78.33 lbs working pressure of shell by rules 79 lbs
 Size of manholes in shell 13" x 14" size of compensating rings 30" x 32" x 3/4"
 No. of Furnaces in each boiler 4 outside diameter 43" length, top 6'0" bottom rough
 Thickness of plates 1/2" description of joint double butt if rings are fitted yes greatest length between rings 6'0"
 Working pressure of furnace by the rules 86 lbs on bottom
 Combustion chamber plating, thickness, sides 1/2" back " top 1/2"
 Pitch of stays to ditto, sides 8" x 8" back " top girders
 If stays are fitted with nuts or riveted heads riveted heads working pressure of plating by rules 100 lbs
 Diameter of stays at smallest part 1 1/4" working pressure of ditto by rules 115 lbs
 End plates in steam space, thickness 3/16" pitch of stays to ditto 15 1/2" x 16 1/2" how stays are secured but Washers
 Working pressure by rules 87 lbs diameter of stays at smallest part 2 3/16" working pressure by rules 81 lbs
 Front plates at bottom, thickness 3/4" Back plates, thickness " greatest pitch of stays " working pressure by rules "

[State if Report is also sent on the Hull of the Ship]

[Form No. 8-21/6/82] 1000.

GLS-147-0208

5917 gcs

Diameter of tubes $3\frac{1}{4}$ " pitch of tubes $4\frac{1}{2}$ " thickness of tube plates, front $\frac{1}{16}$ " back $\frac{1}{16}$ "
 How stayed *tube stays* pitch of stays $14" \times 13\frac{1}{2}$ " width of water spaces $6"$
 Diameter of Superheater or Steam chest $3' 2\frac{3}{4}"$ length $22' 7\frac{3}{4}"$
 Thickness of plates $\frac{1}{2}"$ description of longitudinal joint *Lap* diameter of rivet holes $\frac{7}{8}"$ pitch of rivets $3\frac{1}{4}" \times 1\frac{5}{8}"$
 Working pressure of shell by rules $143\frac{1}{2}$ 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 $\frac{1}{2}$ How stayed *dished*
 Superheater or steam chest; how connected to boiler *riveted throat at each end*

DONKEY BOILER— Description *Vertical with riveted internal cone*
 Made at *Dumbarton* By whom made *Denny & Co.* when made *29.9.82*
 Where fixed *upper deck* working pressure *40 lbs.* Tested by hydraulic pressure to *146 lbs.* No. of Certificate *925*
 Fire grate area *15' 18" sq. ft.* Description of safety valves *direct spring* No. of safety valves *2* area of each *7 sq. in.*
 If fitted with casing gear *yes* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler $6' 0\frac{1}{4}"$ length $11' 2\frac{1}{4}"$ description of riveting *double & single*
 thickness of shell plates $\frac{3}{32}"$ diameter of rivet holes $\frac{13}{16}"$ whether punched or drilled *dilled*
 pitch of rivets $3\frac{1}{4}" \times 1\frac{5}{8}"$ lap of plating $4\frac{3}{8}"$ per centage of strength of joint *75*
 thickness of crown plates $\frac{1}{2}"$ stayed by *4 palm stay 2 5/8" dia.*
 Diameter of furnace, top $4' 4"$ bottom $5' 4"$ height of furnace $6' 0"$
 thickness of plates $\frac{7}{16}"$ description of joint *single riveted lap joint*
 thickness of furnace crown plates $\frac{7}{16}"$ stayed by *4 palm stay 2 5/8" dia.*
 Working pressure of shell by rules *44* working pressure of furnace by rules *40 lbs.*
 diameter of uptake $16\frac{3}{4}"$ thickness of plates $\frac{3}{8}"$ thickness of water tubes $\frac{3}{8}"$

The foregoing is a correct description,
Denny & Co. Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.) *The above engine and boiler have been built under special survey. The materials and workmanship are good, and these having been seen under steam are now in good and efficient working order, and eligible to be noted in the Register Book.* "LLOYD'S M.C." 11. 82

It is submitted that this vessel is eligible to have the notation + 2 m. b. 11. 82 recorded
 R.S.
 30/11/82

W. Brown
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
 Clyde District

The amount of Entry Fee .. £ 3 : 0 : 0 received by me,
 Special .. £ 32 : 13 : 0
 Certificate (if required) .. £ *Gratis* 24/11/1882
 (Travelling Expenses, if any, £ ..)

Committee's Minute .. Friday, 1st December, 1882.
[Signature]