

REPORT ON MACHINERY.

RECEIVED 30th MAR. 82

(Received at London Office)

No. *5657*
 No. in Survey held at *Dumbarton* Date, first Survey *20.12.81* Last Survey *28.1.82*
 Reg. Book. *1483.36*
 on the *Screw Steamer "Manapouri"* Tons *1020.02*
 Master *Thomas Logan* Built at *Dumbarton* When built *1881.2*
 Engines made at *Dumbarton* By whom made *Denny & Co.* when made *1881.2*
 Boilers made at *do.* By whom made *do.* when made *1881.2*
 Registered Horse Power *300* Owners *Union Co. New Zealand* Port belonging to *Bunedin*

ENGINES, &c.—

Description of Engines *Compound direct Acting*
 Diameter of Cylinders *41" 7 1/2"* Length of Stroke *48"* No. of Rev. per minute *45* Point of Cut off, High Pressure *1/10* Low Pressure *9/10*
 Diameter of Screw shaft *12 1/4"* Diameter of Tunnel shaft *11 1/4"* Diameter of Crank shaft journals *13"* Diameter of Crank pin *15"* size of Crank webs *8 1/4" x 16 1/4"*
 Diameter of screw *14' 6"* Pitch of screw *20' 6"* No. of blades *4* state whether moveable *yes* total surface *56' 4"*
 No. of Feed pumps *two* diameter of ditto *4 1/2"* Stroke *24 1/4"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *two* diameter of ditto *4 1/2"* Stroke *24 1/4"* Can one be overhauled while the other is at work *yes*
 Where do they pump from *All compartments*
 No. of Donkey Engines *One* Size of Pumps *8 Cyl. 4 pump, 9 inch* here do they pump from *Sea, Hollow Main bilge*
pipes 7 in addition from Engine room bilge separately.
 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 *One* and sizes *5"* Are they connected to condenser, or to circulating pump *Circulating*
 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 *for 7 main hold suction* How are they protected *wood & iron casing*
 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 deck.*

BOILERS, &c.—

Number of Boilers *two* Description *Cylindrical double ended multibular*
 Working Pressure *40 lbs.* Tested by hydraulic pressure to *140 lbs* Date of test *9.12.81*
 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 *111* Description of safety valves *direct spring*
 No. to each boiler *two* area of each valve *28.270"* 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 *8"*
 Diameter of boilers *15' 2 1/2"* Length of boilers *15' 11 1/2"* description of riveting of shell long. seams *triple* circum. seams *double*
 Thickness of shell plates *17/16"* diameter of rivet holes *1 1/4"* whether punched or drilled *drilled* pitch of rivets *3 3/4" C. 4 1/2" long.*
 Lay of plating *C. 5 1/2" h. 8 1/4"* per centage of strength of longitudinal joint *43.6.* working pressure of shell by rules *45 lbs.*
 Size of manholes in shell *14' x 13'* size of compensating rings *32" x 30" x 7/8"*
 No. of Furnaces in each boiler *Six* outside diameter *3' 2"* length, top *6' 0"* bottom *4' 10"*
 Thickness of plates *1/2"* description of joint *double butt* if rings are fitted *Twins* greatest length between rings *6' 6"*
 Working pressure of furnace by the rules *80 lbs.*
 Combustion chamber plating, thickness, sides *1/2"* back *through* top *1/2"*
 Pitch of stays to ditto *sides 9' x 8"* back *"* top *9' 10" x 7' 1" pitch 9' x 8"*
 If stays are fitted with nuts or riveted heads *Nuts.* working pressure of plating by rules *95 lbs.*
 Diameter of stays at smallest part *1 1/4"* working pressure of ditto by rules *91 lbs.*
 End plates in steam space, thickness *13/16"* pitch of stays to ditto *15' x 14"* how stays are secured *D. Nuts & Washers*
 Working pressure by rules *93 lbs.* diameter of stays at smallest part *2 1/4"* working pressure by rules *82 lbs.*
 Front plates at bottom, thickness *13/16"* Back plates, thickness *"* greatest pitch of stays *"* working pressure by rules *"*

565785

Diameter of tubes 3" pitch of tubes 4 1/2" thickness of tube plates, front 1/16" back 1/16"
 How stayed Stay tubes pitch of stays 12 3/4" width of water spaces 6"
 Diameter of Superheater or Steam chest 36 1/4" length 21' 0"
 Thickness of plates 1/2" description of longitudinal joint lap. diameter of rivet holes 7/8" pitch of rivets 3 1/4"
 Working pressure of shell by rules 144 lbs. Diameter of flue 11" thickness of plates "
 If stiffened with rings " distance between rings " Working pressure by rules "
 End plates of superheater, or steam chest; thickness 1/2" Steel How stayed No stays. dished 2' 6" radius
 Superheater or steam chest; how connected to boiler flanged smooth. riveted.

DONKEY BOILER—

Description Vertical, with internal cone & cross-tubes of steel
 Made at Kumbarton By whom made Denny & Co. when made 1882
 Where fixed Upper deck working pressure 40 lbs. Tested by hydraulic pressure to 140 lbs. No. of Certificate 42
 Fire grate area 13.5 sq. ft. Description of safety valves direct spring No. of safety valves one area of each 7.0 sq. ft.
 If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No
 Diameter of donkey boiler 5' 6 1/4" length Height 11' 2 1/4" description of riveting double & single
 thickness of shell plates 3/8" diameter of rivet holes 13/16" whether punched or drilled drilled
 pitch of rivets 3 1/4" lap of plating 4 1/4" per centage of strength of joint 75
 thickness of crown plates 1/2" stayed by 4 rod stays 2 5/8" dia
 Diameter of furnace, top 4' 2 1/2" bottom 4' 6 1/2" length of furnace "
 thickness of plates 7/16" description of joint Single riveted lap joint.
 thickness of furnace crown plates 7/16" stayed by 4 rod stays 2 5/8" dia.
 Working pressure of shell by rules 94 lbs. working pressure of furnace by rules 40 lbs.
 diameter of uptake 16" thickness of plates 3/16" thickness of water tubes 7/8"

The foregoing is a correct description,

Denny & Co. Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The workmanship on the above Engines & Boilers is good. and they are now in safe working condition. and are in my opinion eligible to be noted in the Register Book. Lloyd's M.C.

It is submitted that this vessel is eligible to have the notification of this inc. recorded
 M 30/3/82

The amount of Entry Fee £ 3 : 0 : 0 received by me,

Special £ 35 : 0 : 0

Certificate (if required) £ 0 : 0 : 0 28 March 1882

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

Friday, March, 31st, 1882

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