

REPORT ON MACHINERY.

5663

RECEIVED 6th APL. 82.

(Received in London Office)

18

No. 663
 No. in Survey held at Glasgow Date, first Survey 11/4/81 Last Survey 5/4/82
 Reg. Book. 1389
 on the S.S. "Indefatigable" Tons 915
 Master M. Tennie Built at Glasgow When built 1882
 Engines made at Glasgow By whom made W. Henderson & Co. Made 1882
 Boilers made at Glasgow By whom made W. Henderson & Co. Made 1882
 Registered Horse Power 163 Owners St. Thomas Elder & Co. Port belonging to Adelaide

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting
 Diameter of Cylinders 30 1/2 x 63 Length of Stroke 4 No. of Rev. per minute 75 Point of cut off, High Pressure 6 Low Pressure 6
 Diameter of Screw shaft 1 1/4 Diameter of Tunnel shaft 1 1/2 Diameter of Crank shaft journals 1 1/2 Diameter of Crank pin 1 3/4 size of Crank webs 14 1/2 x 8 1/2
 Diameter of screw 1 1/8 Pitch of screw 19 0 No. of blades 4 state whether moveable no. total surface 84 sq.
 No. of Feed pumps two diameter of ditto 4 Stroke 22 1/2 Can one be overhauled while the other is at work yes
 No. of Bilge pumps two diameter of ditto 4 Stroke 22 1/2 Can one be overhauled while the other is at work yes
 Where do they pump from from all compartments.
 No. of Donkey Engines one Size of Pumps 10 hp. 4" Where do they pump from Pulsometer for ballast
Can be directly syring from sea bilge & all compartments.
 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 two and sizes 3 1/2, 7 3/8 Are they connected to condenser, or to circulating pump Circulating pump & Condenser
 How are the pumps worked by levers
 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 spot and brass coating plate yes
 What pipes are carried through the bunkers For Main hold suction. How are they protected by wood 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 platform

BOILERS, &c.—

Number of Boilers two Description Cylindrical double ended (Steel Internals)
 Working Pressure 90 lbs Tested by hydraulic pressure to 180 lbs Date of test 31 December 1881
 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 "
 No. of square feet of fire grate surface in each boiler 41.5 Description of safety valves Direct Spring
 No. to each boiler two area of each valve 14.19 Are they fitted with easing gear yes.
 No. of safety valves to superheater " area of each valve " are they fitted with easing gear yes.
 Smallest distance between boilers and bunkers or woodwork 6"
 Diameter of boilers 11' 3" Length of boilers 16' 0" description of riveting of shell long. seams lap treble rivet circum. seam lap double rivet
 Thickness of shell plates 1 1/8" diameter of rivet holes 1 3/8 x 1/32 whether punched or drilled punched pitch of rivets 5 3/4"
 Lap of plating 9 3/8" per centage of strength of longitudinal joint 75 working pressure of shell by rules 100 lbs.
 Size of manholes in shell 14 x 11" size of compensating rings 20 x 14 x 18"
 No. of Furnaces in each boiler four outside diameter 40" app. length, top 6' 0" bottom 5' 0"
 Thickness of plates 7/16 x 1/4" description of joint Welded ends if rings are fitted yes greatest length between rings 3' 3"
 Working pressure of furnace by the rules 90 lbs
 Combustion chamber plating, thickness, sides 7/16" back 7/16" top 7/16"
 Pitch of stays to ditto sides 7 3/4 x 7 3/4 back 7 3/4 x 7 3/4 top 7 3/4 x 7 1/2
 If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 90 lbs
 Diameter of stays at smallest part 1.28 under thread working pressure of ditto by rules 128
 End plates in steam space, thickness 3/4 x 1/2" pitch of stays to ditto 15 x 13 3/4" how stays are secured nuts & washers
 Working pressure by rules 97 lbs diameter of stays at smallest part 2 1/4 working pressure by rules 120 lbs
 Front plates at bottom, thickness 3/8" Back plates, thickness " greatest pitch of stays " working pressure by rules "

5663 gls

Diameter of tubes 4" pitch of tubes 5 3/8" thickness of tube plates, front 1/16" back 1/16"
 How stayed Stay tubes pitch of stays 1" width of water spaces 1 3/8"
 Diameter of Superheater or Steam chest length
 Thickness of plates description of longitudinal joint diameter 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 Wrought with two water tubes.
 Made at Glasgow By whom made D. W. Henderson When made
 Where fixed Upper deck working pressure 55 lbs Tested by hydraulic pressure to 110 lbs No. of Certificate 134
 Fire grate area 14-6 sq ft Description of safety valves Direct Spring No. of safety valves two area of each 4 sq in
 If fitted with easing gear yes If steam from main boilers can enter the donkey boiler no
 Diameter of donkey boiler 6'-0" length 13'-0" description of riveting lap double rivet
 thickness of shell plates 7/16" diameter of rivet holes 3/4" whether punched or drilled punched
 pitch of rivets 3" lap of plating per centage of strength of joint 70
 thickness of crown plates 9/8" stayed by 6 rods 1 3/4" diam
 Diameter of furnace, top 4'-9" bottom 5'-3" length of furnace 6'-0"
 thickness of plates 7/16" description of joint lap single rivet
 thickness of furnace crown plates 1/2" stayed by 9 rods 1 3/4" diam
 Working pressure of shell by rules 66 lbs working pressure of furnace by rules 58 lbs
 diameter of uptake 1 1/2" thickness of plates 7/16" thickness of water tubes 9/8"

The foregoing is a correct description,
 David Henderson & Co. Manufacturers.

General Remarks (See quality of workmanship, opinions as to class, &c.)
 The above Engines & Boilers are of good workmanship, & are now in safe working condition. And are in my opinion eligible to be noted in the Register Book. **LLOYD'S REG.** 582

It is noted that this
 vessel is eligible to have
 the note of classification
 recorded

The amount of Entry Fee £ 3 : 0 : 0 received by me,
 Special £ 24 : 9 : 0
 Certificate (if required) £ 6 : 0 : 0 4 April 1889
 To be sent as per margin £ 24 : 9 : 0
 (Travelling Expenses, if any, £)

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

Committee's Minute Thursday April 2nd 1889