

# REPORT ON MACHINERY.

No. 39276

Port of Rotterdam

FRI. 18 MAR 1904

Received at London Office

No. in Survey held at Capelle de Zuid Date, first Survey \_\_\_\_\_ Last Survey 14th March 1904

Boiler Book. on the Donker Boiler for S.S. "Tonga" (Number of Visits One) Tons { Gross 942.48 Net 550.83

Master O. Spinnangr Built at Capelle de Zuid By whom built St. Puyk When built 03-04-

Engines made at South Shields By whom made George Gray Esq. when made ?

Boilers made at Do. By whom made Do. when made ?

Registered Horse Power \_\_\_\_\_ Owners J. V. Meier Port belonging to Christiania

Net Horse Power as per Section 28 \_\_\_\_\_ Is Refrigerating Machinery fitted  Is Electric Light fitted

## ENGINES, &c.—Description of Engines Will be fitted at South Shields No. of Cylinders \_\_\_\_\_

No. of Cylinders \_\_\_\_\_ Length of Stroke \_\_\_\_\_ Revs. per minute \_\_\_\_\_ Dia. of Screw shaft \_\_\_\_\_ Material of screw shaft \_\_\_\_\_

The screw shaft fitted with a continuous liner the whole length of the stern tube \_\_\_\_\_ Is the after end of the liner made water tight \_\_\_\_\_

The propeller boss \_\_\_\_\_ If the liner is in more than one length are the joints burned \_\_\_\_\_ If the liner does not fit tightly at the part \_\_\_\_\_

Between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive \_\_\_\_\_ If two \_\_\_\_\_

Shafts are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Length of stern bush \_\_\_\_\_

Dia. of Tunnel shaft \_\_\_\_\_ Dia. of Crank shaft journals \_\_\_\_\_ Dia. of Crank pin \_\_\_\_\_ Size of Crank webs \_\_\_\_\_ Dia. of thrust shaft under \_\_\_\_\_

No. of blades \_\_\_\_\_ State whether moveable \_\_\_\_\_ Total surface \_\_\_\_\_

No. of Feed pumps \_\_\_\_\_ Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

No. of Bilge pumps \_\_\_\_\_ Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

No. of Donkey Engines \_\_\_\_\_ Sizes of Pumps \_\_\_\_\_ No. and size of Suctions connected to both Bilge and Donkey pumps \_\_\_\_\_

Engine Room To fit at South Shields In Holds, &c. Two wing Sections, each hold 2 1/2"

Using Suctions in Ballast Tanks 2 1/2" and centre 3 1/2" Peaks 2 1/2 and 2 1/4 see plan appended

No. of bilge injections \_\_\_\_\_ sizes \_\_\_\_\_ Connected to condenser, or to circulating pump \_\_\_\_\_ Is a separate donkey suction fitted in Engine room & size \_\_\_\_\_

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible  Are the sluices on Engine room bulkheads always accessible No Sluices

Are all connections with the sea direct on the skin of the ship \_\_\_\_\_ Are they Valves or Cocks \_\_\_\_\_

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates \_\_\_\_\_ Are the discharge pipes above or below the deep water line \_\_\_\_\_

Are they each fitted with a discharge valve always accessible on the plating of the vessel \_\_\_\_\_ Are the blow off cocks fitted with a spigot and brass covering plate \_\_\_\_\_

What pipes are carried through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times \_\_\_\_\_

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges \_\_\_\_\_

When were stern tube, propeller, screw shaft, and all connections examined in dry dock \_\_\_\_\_ Is the screw shaft tunnel watertight \_\_\_\_\_

Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

## BOILERS, &c.— (Letter for record \_\_\_\_\_) Total Heating Surface of Boilers \_\_\_\_\_ Is forced draft fitted \_\_\_\_\_

No. and Description of Boilers Main Boiler will be fitted in South Shields Working Pressure \_\_\_\_\_ Tested by hydraulic pressure to \_\_\_\_\_

Date of test \_\_\_\_\_ Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler \_\_\_\_\_ No. and Description of safety valves to \_\_\_\_\_

No. of boiler \_\_\_\_\_ Area of each valve \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_

Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_

Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are they welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams \_\_\_\_\_ long. seams \_\_\_\_\_

Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_

Percentages of strength of longitudinal joint \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_

No. of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_

Length of plain part \_\_\_\_\_ Thickness of plates \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_

Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_

Pitch of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_

Material of stays \_\_\_\_\_ Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space: \_\_\_\_\_

Material \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_

Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_

Thickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_

Diameter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_

Pitch across wide water spaces \_\_\_\_\_ Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and \_\_\_\_\_

Thickness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of Stays in each \_\_\_\_\_

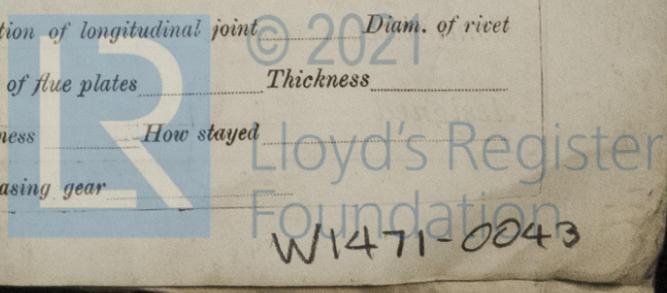
Working pressure by rules \_\_\_\_\_ Superheater or Steam chest; how connected to boiler \_\_\_\_\_ Can the superheater be shut off and the boiler worked \_\_\_\_\_

Separately \_\_\_\_\_ Diameter \_\_\_\_\_ Length \_\_\_\_\_ Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diam. of rivet \_\_\_\_\_

Material \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Diameter of flue \_\_\_\_\_ Material of flue plates \_\_\_\_\_ Thickness \_\_\_\_\_

Stiffened with rings \_\_\_\_\_ Distance between rings \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates: Thickness \_\_\_\_\_ How stayed \_\_\_\_\_

Working pressure of end plates \_\_\_\_\_ Area of safety valves to superheater \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_



W1471-0043

**DONKEY BOILER—** No. \_\_\_\_\_ Description *Amsterdam Report N° 2815*  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed *In stokehold*  
 Working pressure tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area *310'* Description of safety valves *Spring load*  
 No. of safety valves *two* Area of each *4.9"* Pressure to which they are adjusted *100 lb.* If fitted with easing gear *Yes* If steam from main boiler  
 enter the donkey boiler *F* Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of  
 strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_ Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
 Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of Stays to do. \_\_\_\_\_  
 Dia. of stays \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Descrip. \_\_\_\_\_  
 joint \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:—

*Mark on boiler*

*N° 69.*  
*Lloyd's test*  
*100 lb.*  
*J.B.S. 3.04.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building  
 { During progress of work in shops - - }  
 { During erection on board vessel - - }  
 Total No. of \_\_\_\_\_ s

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

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

*Please see Secretary's letter 1912-04 -*  
*The pipe arrangement for Lolds. and Ballast Tanks has been carried out in accordance with the approved plan and fastened to Engine and Boiler space bulkhead. All pipe connections for Engine and Boiler space requires to be completed at South Shields where the machinery will be fitted on board.*

*J. Leeuwenburg.*

*The donkey boiler has been examined under steam, whilst she was placed in the stokehold of the S.S. "Inga" and found in good condition. The safety valves have been adjusted to the above stated pressure. Steam cock for gauge remains to be fitted in the boiler, and easing gear for safety valves remains to be connected. A steam pump (Duplex patent) has been fitted for boiler feed. Entering of steam from the main boiler into the Donkey boiler will be prevented by reducing valve.*

*Amsterdam Report and plan of Donkey boiler, (see Secretary's letter 15th March 1904. E) has been returned herewith.*

Certificate (if required) to be sent to the Secretary not to write on or below the space for Committee's Minute.

The amount of Entry Fee. . . . .	£	:	:	When applied for,
Special . . . . .	£	2.	2.	1904
Donkey Boiler Fee . . . . .	£	:	:	When received,
Travelling Expenses (if any) £	:	10.	:	23/3/04

*J. A. Bernick*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 8 APL 1904

Assigned



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