

REPORT ON MACHINERY.

No. 954.

(Received at London Office 26th OCT 82)

No. in Survey held at *Hartlepool & Middlesbrough* Date, first Survey *22nd June* Last Survey *20th October 1882*

Reg. Book.

on the

S.S. Noord Brabant

Master

Page

Built at

Middlesbrough

When built

1882

Engines made at

Hartlepool

By whom made

Richardson & Sons

When made

1882

Boilers made at

Do

By whom made

Do

When made

Do

Registered Horse Power

340

Owners

Thomson & Macleod & Co. Rotterdam

Port belonging to

Rotterdam

ENGINES, &c.—

Description of Engines *Compound, inverted, surface condensing*

Diameter of Cylinders *40 & 1/2* Length of Stroke *40* No. of Rev. per minute *at 60* Point of Cut off, High Pressure *25%* Low Pressure *25%*

Diameter of Screw shaft *12 1/4* Diameter of Tunnel shaft *11 3/4* Diameter of Crank shaft journals *12 1/4* Diameter of Crank pin *13 1/4* size of Crank webs *4 x 15 3/4*

Diameter of screw *1 1/2* Pitch of screw *1 1/2* No. of blades *4* state whether moveable *No* total surface *1/2.4*

No. of Feed pumps *Two* diameter of ditto *3 3/4* Stroke *30* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *Two* diameter of ditto *3 3/4* Stroke *30* Can one be overhauled while the other is at work *Yes*

Where do they pump from *Fore peak, engine room, after well*

No. of Donkey Engines *Two* Size of Pumps *3 1/2 dia & 1/2 stroke* Where do they pump from *Large donkey from tanks*

& engine room. Small donkey from sea, hot well, fore peak, engine room, after well

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* Are they connected to condenser, or to circulating pump *Circulating pump*

How are the pumps worked *By levers worked from cross head on low pressure piston rod.*

Are all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Stop valves & cocks*

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plate *Yes* Are the discharge pipes above or below the deep water line *Above*

Are the blow off cocks fitted with a special and brass *Yes*

How are they protected *Yes*

When were stern tube, propeller, screw shaft, and all connections examined in dry dock *Yes*

Is the screw shaft tunnel watertight *Yes* and fitted with a sluice door *Yes* worked from *Top platform in engine room*

BOILERS, &c.—

Number of Boilers *Two* Description *Cylindrical, multitubular, fired at both ends*

Working Pressure *150 lbs* Tested by hydraulic pressure to *150 lbs* Date of test *23.8.82. Certificate No. 1/82*

Description of superheating apparatus or steam chest *Vertical steam dome, contracted at neck*

Can each boiler be worked separately *Yes* Can the superheater be shut off and the boiler worked separately *No Superheating*

No. of square feet of fire grate surface in each boiler *58.5* Description of safety valves *Spring, made by Richardson & Sons*

No. to each boiler *Two* area of each valve *25.96* 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 *16" boiler shell, bunker casing*

Diameter of boilers *41-6"* Length of boilers *14-0"* description of riveting of shell long. seams *Double straps, double rivets* circum. seams *Double*

Thickness of shell plates *15/32* diameter of rivet holes *1 1/16* whether punched or drilled *Punched in shell* pitch of rivets *4 5/16*

Lap of plating *Straps 9/8" head* percentage of strength of longitudinal joint *1/2.68* working pressure of shell by rules *82 lbs*

Size of manholes in shell *16 3/4 x 13* size of compensating rings *Rectangular plate 30 x 2 1/2 x 15/32*

No. of Furnaces in each boiler *Four* outside diameter *38"* length, top *4' 9"* bottom *13' 6"*

Thickness of plates *1/16 & 1/2* description of joint *Lap, double rivets* if rings are fitted *Bottom straps with T rivets* greatest length between rings *4' 9"*

Working pressure of furnace by the rules *92 lbs*

Combustion chamber plating, thickness, sides *15/32* back *—* top *15/32*

Pitch of stays to ditto *—* sides *8 1/4 x 8* back *—* top *8 1/4 x 9 3/8*

If stays are fitted with nuts or riveted heads *Yes with countersunk heads* working pressure of plating by rules *Top 160 lbs Sides 82 lbs*

Diameter of stays at smallest part *1 1/8" sides 1 3/8" top* working pressure of ditto by rules *Top 115 lbs Sides 90 lbs*

End plates in steam space, thickness *1/16* pitch of stays to ditto *1 1/2 x 1 1/2* how stays are secured *Nuts & washers*

Working pressure by rules *44.2 lbs* diameter of stays at smallest part *2 1/4* working pressure by rules *80 lbs*

Front plates at bottom, thickness *1/4* Back plates, thickness *—* greatest pitch of stays *—* working pressure by rules *—*

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Diameter of tubes 3 pitch of tubes $4\frac{1}{4} \times 4\frac{3}{8}$ thickness of tube plates, front $\frac{1}{16}$ back $\frac{1}{16}$
 How stayed *Stay tubes* pitch of stays $13\frac{1}{8} \times 8\frac{1}{2}$ width of water spaces $1\frac{1}{4}$ between tubes
 Diameter of Superheater or Steam chest 3'0" length 5'0"
 Thickness of plates $\frac{1}{16}$ description of longitudinal joint *Lap double riveted* diameter of rivet holes $\frac{12}{16}$ pitch of rivets $2\frac{1}{16}$
 Working pressure of shell by rules 126 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 *Conical rods*
 Superheater or steam chest; how connected to boiler *By angle iron 4x4x3/8 single joints 1 done & boiler shell joints 1 done*
DONKEY BOILER— Description *Blake's Patent*
 Made at *Manchester* By whom made *James Blake* when made *Tested 11.9.82*
 Where fixed *In Stoke Newington* working pressure *45 lbs* Tested by hydraulic pressure to *150 lbs* No. of Certificate *198*
 Fire grate area *15.9 sq ft* Description of safety valves *Direct - lever* No. of safety valves *One of each description* area of each *1.0 sq in*
 If fitted with easing gear *No* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler 6'0" length 13'6" description of riveting *Long & seams lap double riveted*
 thickness of shell plates $\frac{1}{2}$ diameter of rivet holes $\frac{3}{4}$ whether punched or drilled *single punch*
 pitch of rivets $2\frac{1}{2}$ lap of plating $4\frac{1}{4}$ per centage of strength of joint $\frac{1}{10}$
 thickness of crown plates $\frac{1}{2}$ stayed by *Spherical*
 Diameter of furnace, top 2'2" bottom 5'6" length of furnace 3'6"
 thickness of plates $\frac{1}{16}$ description of joint *Lap single riveted*
 thickness of furnace crown plates $\frac{1}{2}$ stayed by *1 1/4 curved stays*
 Working pressure of shell by rules *45 lbs* working pressure of furnace by rules
 diameter of uptake thickness of plates thickness of water tubes

The foregoing is a correct description,

J. Richardson Dons. Manufacturer *Engines & Main Boilers only*

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

Material & workmanship good
 The furnace crown plates, back tube plates & combustion chamber plating of the main boilers are of steel manufactured by J. & W. Beardmore of Glasgow.
 The machinery & boilers are in good order & safe working condition & in my opinion eligible for the certification *Y. M. C. 10.82* in the Register Book

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

Special £ 32 : : :

Donkey Boiler £ 2 : : :

Certificate (if required) £ : : :

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

Friday, 27th October, 1882

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