

REPORT ON MACHINERY.

No. 3713

Port of Rotterdam

Received at London Office MON. 24 AUG. 1903

No. in Survey held at Flushing & Rotterdam Date, first Survey 9 Sept 02 Last Survey 6 August 1903

Reg. Book. 7 on the Steel S.S. "Dorothea" (Number of Visits 18)

Master P. de Goede Built at Rotterdam By whom built Bonn & Mees Tons { Gross 2035.03 Net 1309.55 When built 1903

Engines made at Flushing By whom made Kon. M. de Schelde when made 1903

Boilers made at Flushing By whom made Kon. M. de Schelde when made 1903

Registered Horse Power Owners Mests. Hoornschip Dorothea Port belonging to Rotterdam

Nom. Horse Power as per Section 28 220 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Inverted, triple, surf. condens No. of Cylinders three No. of Cranks three

Dia. of Cylinders 24", 35" & 54" Length of Stroke 39" Revs. per minute 70 Dia. of Screw shaft as per rule 12 1/16" Material of screw shaft steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube 2 liners Is the after end of the liner made water tight

in the propeller boss yes 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

liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 60"

Dia. of Tunnel shaft as per rule 10 5/32" Dia. of Crank shaft journals as per rule 10 25/32" Dia. of Crank pin 11 1/2" Size of Crank webs 7 1/2" x 16" Dia. of thrust shaft under collars 11 1/2" Dia. of screw 15'-6" Pitch of screw 15'-6" No. of blades 4 State whether moveable no Total surface 70 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 20" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 5" Stroke 20" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Watson's Sizes of Pumps 8 1/2" x 4 1/2" x 8"-10" x 9" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 1-3" centre & 1-3" in each wing. In Holds, &c. Nº 1 hold a 2 3/4" suction in each wing; Nº 2 hold a 2 3/4" suck in each wing; a 2 1/4" holdwell & a 2 1/4" tunnelwell suction.

No. of bilge injections 1 sizes 5" Connected to condenser, or to circulating pump. Is a separate donkey suction fitted in Engine room & size yes 3"

Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible none

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 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 and all boiler mountings accessible at all times yes

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yes, non returns

When were stern tube, propeller, screw shaft, and all connections examined in dry dock before launch Is the screw shaft tunnel watertight yes

Is it fitted with a watertight door yes worked from above deep loadline

OILERS, &c.— (Letter for record 3) Total Heating Surface of Boilers 3540 sq. ft. Is forced draft fitted no

No. and Description of Boilers 2 single ended marine Working Pressure 160 lb Tested by hydraulic pressure to 320 lb

Date of test 13/3/03 Can each boiler be worked separately yes Area of fire grate in each boiler 54 sq. ft. No. and Description of safety valves to each boiler 2. Direct springs Area of each valve 10.4 sq" Pressure to which they are adjusted 160 lb Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boilers 13'-6 7/8" Length 10'-6 1/2" Material of shell plates steel

Thickness 1 1/16" Range of tensile strength 27-30 T Are they welded or flanged no Descrip. of riveting: cir. seams lap, 2x riv long. seams all butt 5x riv.

Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 1/2" Lap of plates or width of butt straps 17 1/8"

Per centages of strength of longitudinal joint rivets 92 plate 85 Working pressure of shell by rules 164 lb Size of manhole in shell 12" x 16"

Size of compensating ring M. Neil's No. and Description of Furnaces in each boiler 3 Morrison's Material steel Outside diameter 44 3/4"

Length of plain part top ✓ bottom ✓ Thickness of plates crown 3 1/2" Description of longitudinal joint welded No. of strengthening rings ✓

Working pressure of furnace by the rules 168 lb Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 7/8"

Pitch of stays to ditto: Sides 7 1/2" Back 7 1/2" x 8" Top 7 1/2" x 8" If stays are fitted with nuts or riveted heads riv. heads Working pressure by rules 166 lb

Material of stays steel Diameter at smallest part 1.22 Area supported by each stay 60.12 Working pressure by rules 162 End plates in steam space: screwed in plates & doubler

Material steel Thickness 3/4" Pitch of stays 19" How are stays secured by nuts Working pressure by rules 166 lb Material of stays steel

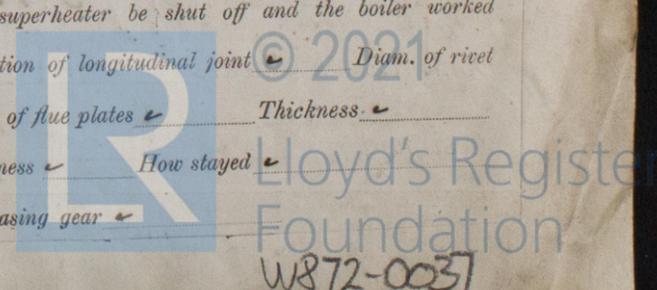
Diameter at smallest part 2 3/4" Area supported by each stay 361 sq" Working pressure by rules 164 Material of Front plates at bottom steel

Thickness 15/16" Material of Lower back plate steel Thickness 15/16" Greatest pitch of stays 12 1/2" Working pressure of plate by rules 195

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates steel Thickness: Front 15/16" Back 3/4" Mean pitch of stays 9 1/2"

Pitch across wide water spaces 15 1/2" Working pressures by rules 176 lb Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8" (2x 3/4") Length as per rule 30" Distance apart 8" Number and pitch of Stays in each 3 - 7 1/2"

Working pressure by rules 160 lb 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 holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness If 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



DONKEY BOILER— No. *one* Description *Cochran's patent.*
 Made at *Annan* By whom made *Cochran & Co.* When made *1903* Where fixed *in Stokehold*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *6588* Fire grate area *19.6* Description of safety valves *Direct spring*
 No. of safety valves *2* Area of each *7 1/2* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
 Dia. of donkey boiler *-* Length *-* Material of shell plates *-* Thickness *-* Range of tensile 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 *-* Description of 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:— *1 Propeller; 2 Connecting rod top end and 2 bottom end bolts & nuts; 2 main bearing bolts; 1 set of coupling bolts; 1 set of feed and belp pumps valves; 1 set of H.P. piston springs; 2 quantities of assorted bolts & nuts and iron of various sizes.*

The foregoing is a correct description,
 Koninglijke Maatschappij, DE SCHIEDEN
 SCHEEPSBOUW- EN WERKTUIGENFABRIEK, Manufacturer.
 R. PROC. *W. van Oelrooide*

Nº 6588.
LLOYD'S TEST
160 LBS
27. 3. 03. J.W.D

Dates of Survey while building
 During progress of work in shops— *9/9; 28/10; 2. 11/12/02. 15, 24/1; 26/2; 4, 13, 14/3; 26, 30/5; 4/6/03.*
 During erection on board vessel— *10/6; 16, 24/7; 3, 6/8/03.*
 Total No. of *s 18.*

C.p. post. Is the approved plan of main boiler forwarded herewith *yes*
 " " *pipe arrangement* " *yes*
 " " *donkey* " " *yes*

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

The main steam pipes are of seamless steel with flanges in one piece and have been tested by hydraulic pressure to 500 lbs per square inch with satisfactory result. Watson's patent evaporator fitted.

*The materials being good and tested as required, the workmanship satisfactory, and the engines and boilers having worked satisfactory under steam we are of opinion that this vessel is eligible to be recorded in the Society's Register Book with **L.M.C. 8.03.***

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 8.03.

Wah.
25. 8. 03.
H.S.
25. 8. 03

The amount of Entry Fee.. £ *2* : : When applied for,
 Special £ *31* : : *20/8 1903*
 Donkey Boiler Fee £ : : : When received,
 Travelling Expenses (if any) £ *3 : 10* : : *21/8 1903*

M. F. D. van Olfers

F. A. Bernackij

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

MACHINERY CERTIFICATE WRITTEN.

Committee's Minute

TUES. 25 AUG 1903

Assigned

+ L.M.C. 8.03



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Certificate (if required) to be sent to the Surveyors Rotterdam

The Surveyors are requested not to write on or within the space for Committee's Minute.