

# REPORT ON MACHINERY.

No. 6655

Received at London Office

JUN. 6 JUN 1910

Writing Report 2 June 1910 When handed in at Local Office

Port of Rotterdam

Survey held at Rotterdam Date, First Survey 10 Nov 09 Last Survey 19 May 1910

on the Steel S.S. Moordrecht

(Number of Visits 23)

Gross 998.75

Net 808.65

By whom built Rotterdamsche

When built 1910

By whom made Drongde -

when made 1910

By whom made Maetschappy.

when made 1910

Indicated Horse Power

Owners

Port belonging to

Horse Power as per Section 28 115

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Engines, &c.—Description of Engines Inverted Triple No. of Cylinders Three No. of Cranks three

Length of Stroke 33" Revs. per minute 90 Dia. of Screw shaft as per rule 9 7/32 Material of steel

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

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

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

are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 40" ✓

Dia. of Crank shaft journals as per rule 8 7/16 ✓ Dia. of Crank pin 9" Size of Crank webs 4x6 1/4 Dia. of thrust shaft under

Feed pumps 2 ✓ Diameter of ditto 2 1/2" Stroke 14" Can one be overhauled while the other is at work Yes ✓

Bilge pumps 2 ✓ Diameter of ditto 2 1/2" Stroke 14" Can one be overhauled while the other is at work Yes ✓

Donkey Engines 1 Duplex ✓ Sizes of Pumps 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

engine Room One 2" port wing, Two 2" stbd wings, one 2" tunnel In Holds, &c. One 2" wing suction each side forehold,

2" wing suction in after hold. Centrifugal

Bilge Injections 1 sizes 4" ✓ Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size Yes 2 1/2" ✓

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

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

How are they protected ✓

All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes ✓

Are Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes ✓

Date of examination of completion of fitting of Sea Connections 20 April of Stern Tube 20 April Screw shaft and Propeller 20 April

Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from deck height

Manufacturers of Steel Schulz Knecht, Grodighen Iron & Steel Works

Heating Surface of Boilers 1906 sq Is Forced Draft fitted no No. and Description of Boilers One single ended Marine

Working Pressure 180 lbs Tested by hydraulic pressure to 270 lbs Date of test 9 March No. of Certificate 277

Can each boiler be worked separately ✓ Area of fire grate in each boiler 60 sq. ft. No. and Description of Safety Valves to

each boiler 2 Spring loaded Area of each valve 7.07 sq Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes ✓

Minimum distance between boilers or uptakes and bunkers or woodwork over 12" Mean dia. of boilers 14 1/6" Length 10' Material of shell plates steel

Thickness of shell plates 1 3/16" Range of tensile strength 28-32 T Are the shell plates welded or flanged no Descrip. of riveting: cir. seams lap, all

Material of rivets all butt 5x Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9 1/8" ✓ Lap of plates or width of butt straps 19 7/8"

Working pressure of shell by rules 184 lbs Size of manhole in shell none

Compensating ring ✓ No. and Description of Furnaces in each boiler 3 Morrison's Material steel Outside diameter 3'-9 1/4"

Thickness of plates 5/8" Description of longitudinal joint welded No. of strengthening rings ✓

Working pressure of furnace by the rules 195 Combustion chamber plates: Material steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 3/4"

Stays to ditto: Sides 8x8 ✓ Back 7 1/4x7 1/4 Top 8 1/2x8 If stays are fitted with nuts or riveted heads riveted Working pressure by rules 214 lbs

Material of stays Steel Diameter at smallest part 1.447 Area supported by each stay 56.3 Working pressure by rules 205 End plates in steam space:

Material steel Thickness 1 1/16" Pitch of stays 17 1/4x15 1/2 How are stays secured double nuts Working pressure by rules 191 Material of stays steel

Diameter at smallest part 5.54 Area supported by each stay 268.9 Working pressure by rules 206 Material of Front plates at bottom steel

Thickness 1 3/16" Material of Lower back plate steel Thickness 1 1/16" Greatest pitch of stays 14 1/4x7 3/4 Working pressure of plate by rules 230

Diameter of tubes 3 1/2" Pitch of tubes 4 7/8x4 1/2 Material of tube plates steel Thickness: Front 1 3/16" Back 1 3/16" Mean pitch of stays 18"x18 1/2"

Working pressures by rules 203 lbs Girders to Chamber tops: Material steel Depth and

Thickness of girder at centre 8 1/4"x1 1/2" Length as per rule 27 1/2" Distance apart 8 1/2" Number and pitch of stays in each 2-18"

Working pressure by rules 238 Superheater or Steam chest; how connected to boiler Schmidt patent Can the superheater be shut off and the boiler worked

separately Yes Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet

plates ✓ 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 3.14 sq Are they fitted with easing gear Yes

VERTICAL DONKEY BOILER— *Manufacturers of Steel Please see continuation p. 52*

No. \_\_\_\_\_ Description \_\_\_\_\_  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_  
 Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_  
 If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ 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 \_\_\_\_\_ Plates \_\_\_\_\_  
 Working pressure of shell by rules \_\_\_\_\_ 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 \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_  
 Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— 2 bolts & nuts for conn. rod top & 2 for bottom ends; 2 main bearing bolts; one set of coupling bolts; 1 set of feed & bilge pump valves; 1 set of LP piston springs; a quantity of assorted bolts & nuts; Iron of various sizes; 1 propeller; 1 stern shaft; 1 set of HP piston springs; 10 condenser tubes & 20 ferrules; 1 set of air pump valves; 1 slide valve spindle; 1 set of crank pin & 1 of crosshead braves; 1 set of feed check valves; 1 safety valve spring; 10 boiler tubes. For centrifugal engine: crank pin & crosshead braves; one slide spindle; 1 set of piston springs.

The foregoing is a correct description,  
*M. Heleides* Manufacturer.

DE DIRECTEUR  
 Dates of Survey while building { During progress of work in shops - - 10, 17/11; 28/12/09, 6, 13, 19, 22/1; 8, 15, 16, 18, 22/2; 9, 18, 19, 23/3; 4/4/10.  
 During erection on board vessel - - 21, 22, 27/4; 4, 13, 19/5/10.  
 Total No. of visits 23.

Is the approved plan of main boiler forwarded herewith  Yes  
 " " " donkey " " "  Yes  
 " " " " " "  Yes

Dates of Examination of principal parts—Cylinders 28/12-22/2 Slides 17/11-16/2 Covers 6/1-8/2 Pistons 28/12-16/2 Rods 17/11-15/2  
 Connecting rods 17/11-18/3 Crank shaft 17/11-15/2 Thrust shaft *Slide* Tunnel shafts in *Ger.* Screw shaft *many.* Propeller 23/3-4/4.  
 Stern tube 19/3-4/4 Steam pipes tested 13 *May* Engine and boiler seatings 22 *April* Engines holding down bolts 27 *April*  
 Completion of pumping arrangements 4 *May* Boilers fixed 22 *April* Engines tried under steam 19 *May*  
 Main boiler safety valves adjusted 19 *May* Thickness of adjusting washers *№1, 4th, №2, 9th.*

Material of Crank shaft *Steel* Identification Mark on Do. *J.M. 6441* Material of Thrust shaft *Steel* Identification Mark on Do. *H.K. 1729*  
 Material of Tunnel shafts *Steel* Identification Marks on Do. *K.H. 5069, 1708* Material of Screw shafts *Steel* Identification Marks on Do. *H.K. 1721 & 22*  
 Material of Steam Pipes *all steel* Test pressure 360 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.)  
 This vessel is fitted with Schmidt patent Superheater, the test certificate of the various parts is now forwarded with the plans and the apparatus when completed has been tested by hydraulic pressure to twice the working pressure and proved sound and tight in every respect. She is further fitted with a feed heater and an 8 Ton evaporator.  
 The Machinery and boilers having been built in accordance with the approved plans and the Secretary's letters, materials tested as required, workmanship good and the whole having worked satisfactory during a trial trip at sea we are of opinion that this vessel is eligible to be recorded in the Society's Register Book with **L.M.C. 5.10.**

It is submitted that this vessel is eligible for THE RECORD. + LMC 5.10  
 W.F.D. de Ollifer  
 P. N. Bemmerli  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee.. \$ 24. : When applied for, 4/6  
 Special .. \$ 207. : 19/10  
 Donkey Boiler Fee .. \$ 25.20 :  
 Travelling Expenses (if any) \$ 2.50 : 11.6.10  
 Committee's Minute TUES. 7 JUN 1910  
 Assigned + LMC 5.10

The Surveyor Rotterdam.

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

