

# REPORT ON MACHINERY.

No. 6745

Received at London Office JUL 28 1910

MON. 27 NOV 1910

Date of writing Report 21 July 1910 When handed in at Local Office \_\_\_\_\_ 19 \_\_\_\_\_ Port of Rotterdam

No. in Survey held at Flushing Date, First Survey 27 Nov 09 Last Survey 24 June 1910  
 Reg. Book. \_\_\_\_\_ (Number of Visits 10)

on the Steel S.S. "Gitarvem" Tons { Gross \_\_\_\_\_  
 Net \_\_\_\_\_

Master \_\_\_\_\_ Built at Amsterdam By whom built Ned. Scheepbouw Maats. When built 1910

Engines made at Flushing By whom made Koninklyke Maatschappij when made 1910

Boilers made at Flushing By whom made de Schelde when made 1910

Registered Horse Power \_\_\_\_\_ Owners Java-China-Japan Lijn Port belonging to Batavia

Nom. Horse Power as per Section 28 545 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 3

Dia. of Cylinders 28 1/2", 47" & 77" Length of Stroke 48" Revs. per minute \_\_\_\_\_ Dia. of Screw shaft as per rule 16 1/4" Material of screw shaft steel  
 as fitted 16 1/4"

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liners Is the after end of the liner made water tight in 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 liners are fitted, is the shaft lapped or protected between the liners  Length of stern bush 65"

Dia. of Tunnel shaft as per rule 14 1/4" Dia. of Crank shaft journals as per rule 14 3/4" Dia. of Crank pin 15" Size of Crank webs 10 x 6 1/4" Dia. of thrust shaft under collars 14 3/4" Dia. of screw 19 1/8" Pitch of Screw 18'-6" No. of Blades 4 State whether moveable  Total surface 106.839 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 3/4" Stroke \_\_\_\_\_ Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 25" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 F 1 Bellax Sizes of Pumps F 10 1/2 x 8 x 21. 7 x 4 x 6. Bellax Dist. 9 x 12 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps \_\_\_\_\_

In Engine Room  In Holds, &c.

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  Are the roses in Engine room always accessible  Are the sluices on Engine room bulkheads always accessible

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

Dates of examination of completion of fitting of Sea Connections \_\_\_\_\_ of Stern Tube \_\_\_\_\_ "Screw shaft and Propeller" \_\_\_\_\_

Is the Screw Shaft Tunnel watertight  Is it fitted with a watertight door  worked from \_\_\_\_\_

**BOILERS, &c.**—(Letter for record ) Manufacturers of Steel David Colville & Sons, Leeds Forge Co Ltd.

Total Heating Surface of Boilers 7830 sq. ft. Is Forced Draft fitted yes No. and Description of Boilers 3 single ended marine

Working Pressure 180 lbs Tested by hydraulic pressure to 270 lbs Date of test 10 June 10 No. of Certificate 283

Can each boiler be worked separately  Area of fire grate in each boiler 60.539 sq. ft. No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 9.62 sq. in. 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 14'-10 1/2" Length 11'-7 1/2" Material of shell plates steel

Thickness 1 1/2" Range of tensile strength 26.7-30.5 T Are the shell plates welded or flanged no Descrip. of riveting: cir. seams lap. 2 x riv

long. seams all butt 5 x riv Diameter of rivet holes in long. seams 19/16" Pitch of rivets 10 3/8" Lap of plates or width of butt straps 23 7/8"

Per centages of strength of longitudinal joint rivets 92. Working pressure of shell by rules 188 lbs Size of manhole in shell none  
 plate 85. Riv

Size of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each boiler 3 susp. bulb Material steel Outside diameter 45 1/2"

Length of plain part top \_\_\_\_\_ bottom \_\_\_\_\_ Thickness of plates crown 5/8" Description of longitudinal joint welded No. of strengthening rings \_\_\_\_\_

Working pressure of furnace by the rules 182 lbs Combustion chamber plates: Material steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 1"

Pitch of stays to ditto: Sides 7 x 8" Back 7 3/4 x 8" Top 7 x 8" If stays are fitted with nuts or riveted heads riveted Working pressure by rules 192 End plates in steam space: Material of stays Iron Diameter at smallest part 1.76 sq. in. Area supported by each stay 62 sq. in. Working pressure by rules 192 End plates in steam space: Material steel Thickness 7/8" Pitch of stays 15" x 16" How are stays secured screwed into plate & drilled Working pressure by rules 320 lbs Material of stays steel

Diameter at smallest part 5.411 Area supported by each stay 240.5 Working pressure by rules 221 Material of Front plates at bottom steel

Thickness 1 5/64" Material of Lower back plate steel Thickness 29/32" Greatest pitch of stays 13" x 7 3/4" Working pressure of plate by rules 234

Diameter of tubes 2 3/4" Pitch of tubes 3 1/16" x 3 7/8" Material of tube plates steel Thickness: Front 15/64" Back 7/8" Mean pitch of stays 7 3/4" x 11 7/8"

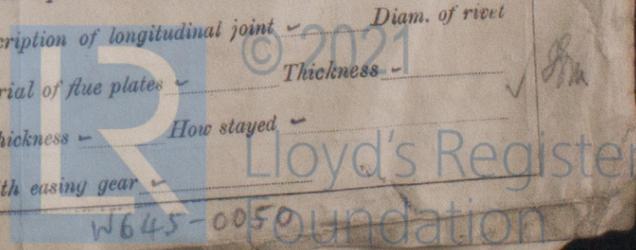
Pitch across wide water spaces 14 1/2" Working pressures by rules 198 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 1/4" x 2" Length as per rule 36" Distance apart 8" Number and pitch of stays in each 4-7"

Working pressure by rules 208 lbs 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



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *ne.* 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 connecting rod top and 2 for bottom ends; 2 main bearing bolts & nuts; 1 set of coupling bolts; 1 set of feed & bilge pump valves; 1 set of springs for each piston; a quantity of assorted bolts & nuts; Iron of various sizes. 2 propeller blades & 4 studs & nuts; 1/3 crankshaft; 1 stem shaft complete; 1 propeller boss; 12 punking bolts & brass nuts; 1 pinton rod complete; 1 guide block; 1 H. F. valve with springs and chamber liners; 1 L. F. valve face & screws; 1 interchangeable valve spindle; 1 link block & liners complete; 1 set of main bearings & 1 of crankpin bearings with liners complete; 1 double set of crosshead bearings with liners; 2 1/2 inch metal studs & nut for stern tube gland; 1 set of thrusters; 1 eccentric sheave & straps of each size; 1 eccentric rod & bolts; 2 sets of air pump lever beams & 2 for crosshead ends; 1 air pump rod complete; 1 air pump head valve & grating; 1 bucket ring; and an ample supply of spare gear for auxiliary engines. 2 safety valve springs; 30 boiler tubes; 2 stay tubes.

The foregoing is a correct description, \_\_\_\_\_  
 Manufacturer. *De Scheide Scheepsbouw en Werktuigenfabriek*

Dates of Survey while building

During progress of work in shops - 27 Nov; 22 Dec 09; 20 Jan; 1 Feb; 3 & 10 March; 13 & 29 April; 10 & 24 June 1910

During erection on board vessel -

Total No. of visits 10.

Is the approved plan of main boiler forwarded herewith yes.

Is the approved plan of shafting donkey forwarded herewith yes.

Dates of Examination of principal parts—Cylinders 20/1-29/4 Slides 22/12-13/4 Covers 22/12-10/3 Pistons 22/12-29/4 Rods 10-24/6

Connecting rods made Crank shaft in Thrust shaft her Tunnel shafts ma Screw shaft ny Propeller 29/4

Stern tube 22/12-24/6 Steam pipes tested ✓ Engine and boiler seatings ✓ Engines holding down bolts ✓

Completion of pumping arrangements ✓ Boilers fixed ✓ Engines tried under steam ✓

Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓  
 Spare K.H 5440

Material of Crank shaft Steel Identification Mark on Do. PA 3426 Material of Thrust shaft steel Identification Mark on Do. J.M. 6006  
 J.M. 6489, 6499; 6500

Material of Tunnel shafts steel Identification Marks on Do. HK 1790 Material of Screw shafts steel Identification Marks on Do. AK 1789  
 1791 & 1792

Material of Steam Pipes ✓ Test pressure ✓

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

Engines & boilers completed for shipment to Amsterdam where machinery will be fitted on board.

The machinery and boilers having been built in accordance with the approved plans & the Secretary's letters, materials tested and workmanship good, I am of opinion that this vessel will be eligible to be recorded in the Society's Register Book with **L.M.C.** and date when the remainder of the requirements have been carried out and reported upon by the Society's Surveyor at Amsterdam.

For endorsement see Amsterdam Rpt. 14694.

The amount of Entry Fee..	£ 36.	When applied for,	
2/3 Special .. .. .	£ 578.	23/7	1910
Donkey Boiler Fee .. .. .	£	When received,	
Travelling Expenses (if any)	£ 88.25	27/7	1910

*W. F. D. van Olfen*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 Assigned  
 TUE. 29 NOV 1910  
 + L.M.C. 11.10

MACHINERY CERTIFICATE  
 WRITTEN in duplicate



Certificate (if required) to be sent to J. B. Fleck, Amsterdam when survey is completed.

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