

REPORT ON MACHINERY.

No. 4710⁶

Received at London Office

THURS. 20 DEC 1910

Date of writing Report 19 Decemb. 1910 When handed in at Local Office

Port of Amsterdam

No. in Survey held at Amsterdam

Date, First Survey 19 April

Last Survey 19 December 1910

Reg. Book.

(Number of Visits 40.)

Is in Supply on the Steel screw tank motor vessel *Vulcanus*.

Gross 1178.82

Net 707.18

When built 1910.

Master *H. J. van 't Hooft* Built at *Amsterdam*

By whom built *Ned Scheepsbouw Maats*

Engines made at *Amsterdam*

By whom made *Ned Fabriek van Werk & Spoor Maat*

Boilers made at

By whom made

Registered Horse Power *600 IHP*
500 BHP

Owners *Ned Indische Tank Stoomboot Maats*

Port belonging to *Gravenhage*

Nom. Horse Power as per Section 28

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines

Single acting 4 Cycle Diesel Oil Engine

No. of Cylinders *6*

No. of Cranks *6*

Dia. of Cylinders *400 mm*

15 3/4"

Length of Stroke *600 mm*

23 5/8"

Revs. per minute *200*

Dia. of Screw shaft

as per rule *2.897*

Material of *W. Keimp*

Is the 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

in the propeller boss *Yes*

If the liner is in more than one length are the joints burned *Yes*

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

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush *33.46"*

Dia. of Tunnel shaft

as per rule *8.26"*

as fitted *2.10"*

Dia. of Crank shaft journals

as per rule *8.89"*

as fitted *2.6"*

Dia. of Crank pin *2.26"*

Size of Crank webs *14.96 x 4.56"*

Dia. of thrust shaft under

collars *2.20"*

Dia. of screw *2.800 mm*

Pitch of Screw *6.7 mm*

No. of Blades *4*

State whether moveable *no*

Total surface *2.94 m²*

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Bilge pumps *two*

Diameter of ditto *70 mm*

Stroke *9.68"*

Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *two*

Sizes of Pumps *two diam 80 mm stroke 2.80 mm*

8.14"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *two 70 = 2 3/4"*

In Holds, &c. *7 - 2 1/8" Fore hold 1 - 3"*

6 - 4 1/2" Cofferdams 5 - 3"

No. of Bilge Injections

sizes

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size *Yes 70 mm*

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 *Valves*

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

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 *Yes*

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

Dates of examination of completion of fitting of Sea Connections *26 Oct*

of Stern Tube *26 Oct*

Screw shaft and Propeller *26 Oct 1910*

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

OILERS, &c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each 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 the shell plates 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

Per centages of strength of longitudinal joint

rivets

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

Thickness of plates

orow

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

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



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W680-01119

VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description		When made	Where fixed
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
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
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:— 1 propeller / screwshaft, 1/2 (three three) crankshaft, 24 springs, 4 1/2 top and 4 1/2 bottom end brasses, with two bolts & nuts for each, 1/2 main bearing brasses with 2 bolts & nuts, 2 sea escape valves with bonnets & springs, two admission valves, two starting valves with bonnets & springs, two solar oil pump plungers, two sets of piston rings, 1 set of coupling bolts, 1 set of bilge pump valves, 12 coil studs & nuts, 24 dozen bolts & nuts, different small valves, etc. also see for description.

NEDERLANDSCHE FABRIEK
VAN WERKTUIGEN EN SPOORWEG-MATERIEEL

Manufacturer.

Dates of Survey while building: During progress of work in shops - April 19, May 12, 17 & 31, June 2, 7, 13, 17, 23, 24, 25, July 1, 6, 13, August 3, 19, 23, 25, Sept 3, 6, 13, 15 & 28. During erection on board vessel - October 6, 11, 15, 19, 26, 27, 29 & 31, November 12, 15, 26 & 29, December 3, 8, 11, 13 and 17-1910. Total No. of visits: 40. Is the approved plan of ^{shafting} ~~main boiler~~ forwarded herewith Yes. " " " ^{pumping plan} ~~donkey~~ " " " Yes.

Dates of Examination of principal parts—Cylinders 19 April till 1910 Covers Pistons 13 Dec Rods 2 June to 25 July Connecting rods ditto Crank shaft 31 May Thrust shaft 18 June till Tunnel shafts ditto Screw shaft 27 Oct Propeller 6 Oct till 27 Oct Stern tube 23 Aug - 19 Oct Steam pipes tested Engine and boiler seatings 3 Sept - 19 Oct Engines holding down bolts 26 November Completion of pumping arrangements 8 December Boilers fixed Engines tried under steam 8 & 8 & 13 December Main boiler safety valves adjusted Thickness of adjusting washers Material of Crank shaft S. Meinger Identification Mark on Do. 3656-57 5746 SPARE Material of Thrust shaft S. Meinger Identification Mark on Do. 2237. Material of Tunnel shafts S. Meinger Identification Marks on Do. 2238 Material of Screw shafts S. Meinger Identification Marks on Do. 2239 2240 SPARE Material of Steam Pipes Test pressure

General Remarks (State quality of workmanship, opinions as to class, &c.)
This vessel's machinery has been fitted in an efficient manner. Material used in the construction of good quality and tested as required. Cylinders tested under hydraulic pressure to 70 atmospheres. Main & auxiliary motors attended whilst in working condition found working satisfactory. Approximate speed attained about 8 knots. Maximum revolutions 200, Minimum ditto 60. I am of opinion that this vessel should be recorded in the Society's Register Book.

LMC-12.1910

The amount of Entry Fee	£ 2: 0: 0	When applied for, Dec 1910
Special	£ 25: 0: 0	When received, Dec 1910
Donkey Boiler Fee	£ :	
Travelling Expenses (if any)	£ 1: 5: 0	

M. H. L. B.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 23 DEC 1910

Assigned

+ L.M.C. 12.10
oil engine

TUES. 13 JUN 1911

MACHINERY CERTIFICATE
WRITTEN. 22/10/10



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Lloyd's Register
Foundation

Rpt. 13.
Port of
No. in Reg. Book
16 in Supp
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How are the

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