

REPORT ON MACHINERY.

Received at London Office

APR 27 1911

Date of writing Report 12 April 1911 When handed in at Local Office 19 Port of Rotterdam

No. in Survey held at Rotterdam Date, First Survey 4 October 1910 Last Survey 4 April 1911

Reg. Book. on the Steel Screw Steamer "Nord Holland" (Number of Visits 16)

Master H. de Boer Built at Rotterdam By whom built Myron Schuyler, Westchester, Penna. When built 1911

Engines made at Rotterdam By whom made do when made 1911

Boilers made at do By whom made do when made 1911

Registered Horse Power L Owners Schepswaart, Steenhoven My. Port belonging to Rotterdam

Nom. Horse Power as per Section 28 155 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 14 1/2 x 29 x 46 Length of Stroke 36 Revs. per minute 80 Dia. of Screw shaft 10.5 Material of Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner 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 L 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 L If two liners are fitted, is the shaft lapped or protected between the liners L Length of stern bush 45"

Dia. of Tunnel shaft 9 1/8 Dia. of Crank shaft journals 9 5/8 Dia. of Crank pin 9 1/2 Size of Crank webs 6 1/2 x 4 1/2 Dia. of thrust shaft under collars 9 7/8 Dia. of screw 11 1/2 Pitch of Screw 14 9 No. of Blades 4 State whether moveable No Total surface 50 sq

No. of Feed pumps 2 Diameter of ditto 3 1/4 Stroke 18 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 18 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 1 Sizes of Pumps 6 x 4 x 1; B. 10 x 9 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 1 center, 1 each wing 2 1/4" each, one 2 1/4" turned out. In Holds, &c. one 2 1/4" in each wing gutter in forehold and one 2 1/4" in each wing gutter in afterhold.

No. of Bilge Injections 1 sizes 4 1/4 Connected to condensers, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 2 1/4"

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 L

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 Yes and on below, approx. Secretary's letter 2. 29.3.11.

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 L

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 28/2 of Stern Tube 28/2 Screw shaft and Propeller 28/2

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper platform in engine room

BOILERS, &c.—(Letter for record L) Manufacturers of Steel Phonix Ltd for Haerder Verzin Haerde

Total Heating Surface of Boilers 2420 Is Forced Draft fitted No No. and Description of Boilers Two single ended marine boilers

Working Pressure 180 lb. Tested by hydraulic pressure to 270 lb. Date of test 23.2.11. No. of Certificate 500

Can each boiler be worked separately Yes Area of fire grate in each boiler 39 sq No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 5.9 sq Pressure to which they are adjusted 180 lb. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 11" Mean dia. of boilers 12 1/2" Length 106 1/2" Material of shell plates Steel

Thickness 1 1/16" Range of tensile strength 22-32 T. Are the shell plates welded or flanged No Descrip. of riveting: cir. seams lap 2 x riv long. seams double butt 5 Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 4 1/8" Lap of plates or width of butt straps 16"

Per centages of strength of longitudinal joint 87.5 Working pressure of shell by rules 193 lb. Size of manhole in shell 12 x 16"

Size of compensating ring 4 x 1 1/16" No. and Description of Furnaces in each boiler 2 masonry Material Steel Outside diameter 5' 10 1/2"

Length of plain part top 2 bottom 2 Thickness of plates top 1 1/16" bottom 1 1/16" Description of longitudinal joint Welded No. of strengthening rings L

Working pressure of furnace by the rules 181 lb. Combustion chamber plates: Material Steel Thickness: Sides 7/8" Back 5/8" Top 5/8" Bottom 1"

Pitch of stays to ditto: Sides 7/8 x 7/4 Back 7/8 x 7/4 Top 7/4 x 7/8 If stays are fitted with nuts or riveted heads riveted Working pressure by rules 181 lb.

Material of stays Steel Diameter at smallest part 1.488 Area supported by each stay 53.3 Working pressure by rules 195 lb. End plates in steam space: Material Steel Thickness 1 5/16" Pitch of stays 15.5 x 16 How are stays secured double nuts and riveted Working pressure by rules 199 lb. Material of stays Steel

Diameter at smallest part 5.05 Area supported by each stay 248 Working pressure by rules 211 Material of Front plates at bottom Steel

Thickness 1 3/16" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 14" x 7 1/4" Working pressure of plate by rules 252 lb.

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

Pitch across wide water spaces 14" x 8 1/4" Working pressures by rules 257 lb. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8" x 2 x 3/4" Length as per rule 2' 6" Distance apart 4 3/4" Number and pitch of stays in each 5 of 4 1/8"

Working pressure by rules 195 lb. Superheater or Steam chest; how connected to boiler L Can the superheater be shut off and the boiler worked separately L

Diameter L Length L Thickness of shell plates L Material L Description of longitudinal joint L Diam. of rivet holes L Pitch of rivets L Working pressure of shell by rules L Diameter of flue L Material of flue plates L Thickness L

If stiffened with rings L Distance between rings L Working pressure by rules L End plates: Thickness L How stayed L

Working pressure of end plates L Area of safety valves to superheater L Are they fitted with easing gear L

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *Wm.* 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 _____ Radius of do. _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:—*2 connecting rod top end bolts, nuts; 2 connecting bottom end bolts, nuts; 2 main beam bolts; 1 set of coupling bolts; 1 set of feed, lift, circulator, air pump valves, guards; 1 quantity of various bolts; 1 set of various pins; 1 open stern shaft; 1 propeller; 1 set bottom, top end bottom brasses; 1 condenser ring; 1 set junk ring bolts; 1 valve spindle; 1 eccentric rod, air circulator pump rod; 15 condenser tubes; 50 foreruns; 1 big pump plunger; 1 set fire bars; 1 set of check valves.*
 The foregoing is a correct description,
 Maatschappij voor Scheeps- en Werktuigbouw
 „FIJENOORD” *D. Coll.* Manufacturer.

Dates of Survey while building { During progress of work in shops— *Dec. 7, 18, 21, 24, 25, 26, 28.*
 { During erection on board vessel— *10, 20, 24, 27, March & April.*
 Total No. of visits *16*

Is the approved plan of main boiler forwarded herewith? *Yes*
pumps, shafts, discharges, other plans.
 " " " donkey " " "

Dates of Examination of principal parts—Cylinders *2 1/2 - 2 1/2* Slides *2 1/2 2 1/2* Covers *2 1/2 1 1/2* Pistons *2 1/2 - 1 1/2* Rods *7/8 - 1 1/2*
 Connecting rods *7/8 1 1/2* Crank shaft *made* Thrust shaft *in* Tunnel shafts *for* Screw shaft *many* Propeller *1 1/2*
 Stern tube *1 1/2* Steam pipes tested *2 1/2* Engine and boiler seatings *2 1/2* Engines holding down bolts *2 1/2*
 Completion of pumping arrangements *2 1/2* Boilers fixed *2 1/2* Engines tried under steam *2 1/2*
 Main boiler safety valves adjusted *2 1/2* Thickness of adjusting washers *9B. 11 1/2. 11 1/2. 14. 13. 11. 13. 5. 11. 14. 11. 11. 11. 11. 11.*
 Material of Crank shaft *Steel* Identification Mark on Do. *K.H. 2894* Material of Thrust shaft *Steel* Identification Mark on Do. *K.H. 6152*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *K.H. 6169, 6170, 6171* Material of Screw shafts *Steel* Identification Marks on Do. *K.H. 4110, 4111, 4112*
 Material of Steam Pipes *Steel* Test pressure *360 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery and boiler, having been fitted in accordance with the approved plan and the Surveyor's letters, maturely tested as required, workmanship good, and the machinery having worked satisfactory under steam. We are of opinion that the vessel is eligible to be recorded in the Society's Register book with L.M.C. 4.11.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 4.11.
JWD *FRS*
28/4/11

M. F. D. van Ollefen
T. van Bemmelen
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee . . . £ *24* : When applied for, *24/4*
 Special . . . £ *279* :
 Donkey Boiler Fee . . . £ :
 Travelling Expenses (if any) £ *9* : When received, *6/57*

Committee's Minute *FRI 28 APR 1911*
 Assigned *Thurs 4. 11*

MACHINERY CERTIFICATE WRITTEN



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

The Surveyors are requested not to arrive on or before the date for Committee's Minute.