

REPORT ON MACHINERY.

Port of Rotterdam

Received at London Office SAT. FEB. 2 1907

No. in Survey held at Flushing Date, first Survey 28 Feb 06 Last Survey 22 Jan 1907

Reg. Book. on the Steel S.S. "Tjikini" (Number of Visits 15)

Master H. Koops Built at Flushing By whom built Koninklyke- Tons { Gross 4737 Net 3014 When built 1906-07

Engines made at Flushing By whom made Maatschappij- when made 1906-07

Boilers made at Flushing By whom made de Schelde. when made 1906-07

Registered Horse Power ✓ Owners Java-China-Japan-Lyn Port belonging to Batavia

Nom. Horse Power as per Section 28 406 391. Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

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

Dia. of Cylinders 24 1/4, 40, 64 Length of Stroke 45 Revs. per minute 70 Dia. of Screw shaft as per rule 14 7/16 Material of steel

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 ✓ 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 58 1/2

Dia. of Tunnel shaft as per rule 13 Dia. of Crank shaft journals as per rule 13 1/2 Dia. of Crank pin 13 1/2 Size of Crank webs 9 1/4 x 5 1/4 Dia. of thrust shaft under collars 15 1/2 Dia. of screw 16-6 Pitch of Screw 18-6 17-6 No. of Blades 4 State whether moveable yes Total surface 86 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 25 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 25 Can one be overhauled while the other is at work yes

No. of Donkey Engines 1 Sizes of Pumps W. I. 9 1/2 x 18. B. 9 1/2 x 10 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room four 3 1/2" wings In Holds, &c. W. I. two 3 1/2" wings, W. II. two 3 1/2" wings

Spare bunker two 3 1/2" wings; W. III. two 3 1/2" wings, W. IV. two 3 1/2" wings.

No. of Bilge Injections 1 sizes 8 Connected to condenser, or to circulating pump. Is a separate Donkey Suction fitted in Engine room & size yes 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 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.

Dates of examination of completion of fitting of Sea Connections 19 Sept 06. of Stern Tube 17 Nov 06 Screw shaft and Propeller 17 Nov 06

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from main deck height.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Hoelder, Verin, Leeds Forge.

Total Heating Surface of Boilers 5535 Is Forced Draft fitted yes No. and Description of Boilers 3 Single ended marine

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 17 Oct 06 No. of Certificate 235

Can each boiler be worked separately yes. Area of fire grate in each boiler 45.3 sq ft No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 5.94 Pressure to which they are adjusted 180 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork feet Mean dia. of boilers 12-9 1/16 Length 12 Material of shell plates steel

Thickness 1 1/32 Range of tensile strength 27-30 T Are the shell plates welded or flanged no Descrip. of riveting: cir. seams lap 2 x riv

long. seams all but 5 x 2 Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 7 1/16 Lap of plates or width of butt straps 18 1/4

Per centages of strength of longitudinal joint rivets 92 plate 85 Working pressure of shell by rules 191 lbs Size of manhole in shell none

Size of compensating ring ✓ No. and Description of Furnaces in each boiler 2 Deighton's Material steel Outside diameter 47 3/4

Length of plain part top ✓ bottom ✓ Thickness of plates crown 2 1/32 bottom ✓ Description of longitudinal joint welded No. of strengthening rings ✓

Working pressure of furnace by the rules 186 Combustion chamber plates: Material steel Thickness: Sides 1 1/16 Back 1 1/16 Top 1 1/16 Bottom 1

Pitch of stays to ditto: Sides 7 x 8 Back 7 1/4 x 7 1/4 Top 7 x 8 1/2 If stays are fitted with nuts or riveted heads riveted Working pressure by rules 214 lb

Material of stays iron Diameter at smallest part 2.07 Area supported by each stay 56.31 Working pressure by rules 275 End plates in steam space: area

Material steel Thickness 1 Pitch of stays 14 x 16 1/2 How are stays secured 3 nuts Working pressure by rules 200 lb Material of stays steel

Diameter at smallest part 6.49 Area supported by each stay 280.6 Working pressure by rules 231 Material of Front plates at bottom steel

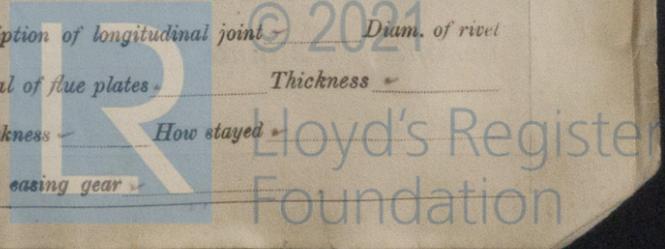
Thickness 15/16 Material of Lower back plate steel Thickness 7/8 Greatest pitch of stays 12 Working pressure of plate by rules 183

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

Pitch across wide water spaces 14 3/4 Working pressures by rules 285 lb Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 1/4 x 2 Length as per rule 37 Distance apart 8 1/2 Number and pitch of stays in each 4-7

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

W567-0051



VERTICAL DONKEY BOILER— Manufacturers of Steel

Form with fields: 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 casing 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

Date of visit, No. in Reg. Book, Tonnage, Registered Horse Power, No. of Main, No. of Donkey Steam Press in Main B, in Donkey

Last Survey Particulars

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SPARE GEAR. State the articles supplied:—piston, 12 jumbling bolts & nuts, 1 piston rod & nut, 2 go ahead & stern guide shoes, 128 1/2 cylinder valve face, 50 screws for same, 1 interchangeable slider spindle, 1 link block complete, 1 set main bearing brasses, 1 set crankpin brasses & liners, 1 set crosshead brasses & liners, 2 bolts & nuts for main bearings, top ends & bottom ends, 1 set of coupling bolts, 2 studs & nuts for alternator gland, 8 thrust shoes complete, 1 eccentric, rod & strap for each type, 4 sets of brasses for pump motion deadlinks, 1 air pump rod & nut, 1 air pump head valve grating complete, 1 feed plunger & set of valves, 1 escape valve spring, 1 boiler pump plunger & set of valves, 150 bolts & nuts, 100 condenser ferrules & 50 tubes, 2 studs & nuts for each gland, 105 studs & nuts, 2 safety valve springs, 30 tubes, 2 stay tubes, 2 dross & bolts for mantle doors, furnace bars for boiler, 6 furnaces, an ample supply of spare parts for centrifugal pump, Weir's pumps, ballast donkey, iron, tools and utensils.

Dates of Survey while building: During progress of work in shops - Feb 28, May 8, June 20, July 17, 24, 30, Sept 3, 19, Oct 17, Nov 17, 1906. During erection on board vessel - Nov 22, Dec 18-1906; Jan 5, 15 & 22-1907. Total No. of visits 15.

Dates of Examination of principal parts: Cylinders 8/5-14/9/06, Slides 17/7-3/9/06, Covers 17/7-3/9/06, Pistons 20/6-3/9/06, Rods 8/5-3/9/06, Connecting rods 20/6-19/9, Crank shaft made, Thrust shaft in, Tunnel shafts Ger, Screw shaft many, Propeller 8/5-19/9/06, Stern tube 17/6-3/9/06, Steam pipes tested 18/12/06, 15/1/07, Engine and boiler seatings 19/9-18/12/06, Engines holding down bolts 18/12/06, Completion of pumping arrangements 3/1/07, Boilers fixed 18/12/06, Engines tried under steam 22/1/07, Main boiler safety valves adjusted 15/1/07, Thickness of adjusting washers I, 15; II, 25; III, 5; IV, 22; V, 24; VI, 25 mm. Material of Crank shaft steel, Identification Mark on Do. KH 2888, Material of Thrust shaft steel, Identification Mark on Do. AH 1935, Material of Tunnel shafts steel, Identification Marks on Do. JM, Material of Screw shafts steel, Identification Marks on Do. JM 5236, Material of Steam Pipes Solid steel & flange main, drawn steel branches, Test pressure 600 lbs & 1500 lbs respectively.

General Remarks (State quality of workmanship, opinions as to class, &c.) Weir's feed heater and a 20 Tons Quiggin's evaporator fitted.

The machinery and boilers have been constructed in accordance with the approved plans, the Secretary's letters and the requirements of the Rules, materials tested and workmanship good. During the trial trip the condenser - which had been tested by hydraulic pressure to 20 lbs per sq. inch - was found to be leaking, and one of the feed pump plungers requires to be further examined; those parts will be attended to at Amsterdam and if favorably reported upon by the Society's Surveyor at that Port I am of opinion that this vessel is eligible to be recorded in the Society's Register Book with

L.M.C. 1.07

It is submitted that this vessel is eligible for THE RECORD L.M.C. 1.07 F.D. ELEC. LIGHT.

The amount of Entry Fee. £ 3: When applied for. Special £ 40. 6: 29/1 1907 Donkey Boiler Fee £ 7: When received. Travelling Expenses (if any) £ 8: 7: 31/1 1907

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

TUES. FEB 5 1907

Committee's Minute Assigned

+ L.M.C. 1.07 F.D. Elec. Light

MACHINERY CERTIFICATE WRITTEN.



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

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

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