

REPORT ON MACHINERY.

No. 23325
MON. 24 JUN 1907

Port of Sunderland

Received at London Office

No. in Survey held at Sunderland Date, first Survey 16th January of Last Survey 15th June 1907
Reg. Book. on the Steel Screw Steamer "KNOTTINGLY" (Number of Visits 36)

Master J. W. Walker Built at Sunderland By whom built J. Crown & Sons Ltd. Tons { Gross 824.34
Net 416.70 When built 1904

Engines made at Sunderland By whom made N.E. Marine Eng^y Co. Ltd. when made 1904

Boilers made at Sunderland By whom made N.E. Marine Eng^y Co. Ltd. when made 1904

Registered Horse Power _____ Owners Wetherall & Co. Port belonging to Goole

Nom. Horse Power as per Section 28 128 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Expansion (Inverted type) No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 16 1/2 - 26 1/2 - 45 Length of Stroke 33 Revs. per minute 84 1/2 Dia. of Screw shaft 10 1/8 Material of screw shaft Crack steel

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 fil and cadernall gland Length of stern bush 4-11

Dia. of Tunnel shaft 8 5/8 Dia. of Crank shaft journals 8.6 Dia. of Crank pin 8 5/8 Size of Crank webs 5 1/2 x 12 Dia. of thrust shaft under collars 8 5/8 Dia. of screw 11-6 Pitch of Screw 13-6 No. of Blades four State whether moveable no Total surface 45 sq ft

No. of Feed pumps Two Diameter of ditto 2 3/4 Stroke 15 Can one be overhauled while the other is at work yes

No. of Bilge pumps Two Diameter of ditto 3 Stroke 15 Can one be overhauled while the other is at work yes

No. of Donkey Engines Two Sizes of Pumps 6 x 7 x 9 in. + 5 1/2 x 3 1/2 x 5 in. No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room one 3 1/2 in. dia. one 2 1/2 in. dia. In Holds, &c. Two 2 1/2 in. dia. in Main Hold + forehold

No. of Bilge Injections one sizes 3 1/2 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes 2 1/2

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 no

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 Main Hold + forehold How are they protected Wood casing

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 25/5 of Stern Tube 22/5 Screw shaft and Propeller 11/6

Is the Screw Shaft Tunnel watertight no tunnel Is it fitted with a watertight door — worked from Machinery aft

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Spence & Sons Ltd, & Reighton & Co. Ltd.

Total Heating Surface of Boilers 2100 sq ft Is Forced Draft fitted no No. and Description of Boilers Two single ended Cyl. Mult.

Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 22/2/07 No. of Certificate 2580

Can each boiler be worked separately yes Area of fire grate in each boiler 26.5 sq ft No. and Description of Safety Valves to each boiler Two, direct spring Area of each valve 3.14 sq in. Pressure to which they are adjusted 165 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 3-4 (Rule Mean dia. of boilers 11 1/2) Length 9-0 Material of shell plates steel

Thickness 24/32 Range of tensile strength 28 1/2 to 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Lap & B.L.

long. seams 5/8 - TR Diameter of rivet holes in long. seams 31/32 Pitch of rivets 4/4 Lap of plates or width of butt straps 14 3/4

Per centages of strength of longitudinal joint rivets 89.5 Working pressure of shell by rules 163.3 lbs. Size of manhole in shell end plate 16 x 12

Size of compensating ring flanged No. and Description of Furnaces in each boiler two plain Material steel Outside diameter 38 3/4

Length of plain part top 5-0 3/4 bottom 5-0 Thickness of plates crown 5/8 bottom 5/8 Description of longitudinal joint Weld No. of strengthening rings —

Working pressure of furnace by the rules 163.5 lbs. Combustion chamber plates: Material steel Thickness: Sides 11/16 Back 3/4 Top 11/16 Bottom 13/16

Pitch of stays to ditto: Sides 4 1/2 x 12 1/8 Back 11/4 x 10 1/2 Top 4 1/2 x 12 1/8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 162.16 lbs.

Material of stays steel Diameter at smallest part 1 1/8, 1 1/8, 1 1/8 Area supported by each stay 75 B. no. Working pressure by rules 160 lbs. End plates in steam space:

Material steel Thickness 1 3/16 Pitch of stays 24 1/2 x 15 1/4 How are stays secured BY + W Working pressure by rules 160.3 lbs. Material of stays steel

Diameter at smallest part 2.8 Area supported by each stay 373.6 Working pressure by rules 163 lbs. Material of Front plates at bottom steel

Thickness 3/4 Material of Lower back plate steel Thickness 1/8 Greatest pitch of stays 14 3/4 x 10 1/2 Working pressure of plate by rules 161.4 lbs.

Diameter of tubes 3 1/4 Pitch of tubes 4 3/4 x 4 1/2 Material of tube plates steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 10 1/8

Pitch across wide water spaces 14 1/2 Working pressures by rules 192 lbs. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 x 13 1/4 Length as per rule 24 1/2 Distance apart 12 1/8 Number and pitch of stays in each Two 4 1/2

Working pressure by rules 166 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 —

Lloyd's Register
FOL 50-0199

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No Donkey Boiler

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:— One set of coupling bolts & nuts, two each top end, bottom end & main bearing bolts & nuts, one set each feed & helge pump valve, one propeller & mounted drum etc.

The foregoing is a correct description, NORTH EASTERN MARINE ENGINEERING CO. LTD. Manufacturer.

Walter Beath Surveyor R.M.

Dates of Survey while building During progress of work in shops - 27. Jan. 16, 23, 25, 29, Feb. 1, 5, 7, 14, 21, 22, 26, 28, March 12, 19, 25, April 10, 11, 18, 23, 26, 29, May 3, 6, 7, 9, 11, 13, 16, 28, 29, 30, June 1, 7, 10, 15, Total No. of visits 36 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 26/1, 4/27, 17 Slides 19/2 Covers 7/5-12/5 Pistons 7/5 Rods 7/5 Connecting rods 14/5 Crank shaft 21/2, 2/2, 7/5 Thrust shaft 11/5 Tunnel shafts none Screw shaft 28/1, 29/1 Propeller 3/5 Stern tube 4/4, 15/4, 26/1, 27/1 Steam pipes tested 21/6 Engine and boiler seatings 21/5 Engines holding down bolts 4/6, 7/6 Completion of pumping arrangements 10/6 Boilers fixed 27/5, 4/6, 7/6 Engines tried under steam 10/6, 15/6 Main boiler safety valves adjusted 10/6 Thickness of adjusting washers all 5/16, 3/16, 3/16, 3/16, 3/16 Material of Crank shaft steel Identification Mark on Do. 4237 Material of Thrust shaft steel Identification Mark on Do. 49917 Material of Tunnel shafts None Identification Marks on Do. — Material of Screw shafts iron Identification Marks on Do. 4234, 4235 Material of Steam Pipes Copper rolled beam 3 1/2 Breckings Test pressure 400 lbs.

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

The Machinery of this vessel has been constructed under special survey the material & workmanship sound & good the Boiler & Steam pipes have been tested by hydraulic pressure in accordance with the Rules, the Machinery worked satisfactorily & the safety valves have been adjusted under steam to their working pressure & easing gear fitted

It is submitted that this vessel is eligible for THE RECORD. L. M. C. 6. 07

Elec Light

R.S. 26-6-07

This vessel is eligible in my opinion to have the notation * L M C 6 0 7 in the Register Book, machinery fitted aft & Electric Light

Table with columns: Fee type (The amount of Entry Fee, Special, Donkey Boiler Fee, Travelling Expenses), Amount (£), and When applied for/When received dates.

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

FRI. 28 JUN 1907

Committee's Minute

Assigned

+ L.M.C. 6. 07 Elec Light

MACHINERY CERTIFICATE WRITTEN.



© 2021 Lloyd's Register Foundation

Sunderland

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