

REPORT ON MACHINERY.

No. 23023

Port of *Sunderland*Received at London Office **THUR. NOV 22nd 1906**No. in Survey held at *Sunderland*Date, first Survey *12th July 1906* Last Survey *16th October 1906*

Reg. Book.

on the *Machinery of the Antwerp S.S. No 32*S.S. *"Sjero"*(Number of Visits *27*)Gross *1515*Tons Net *1166*Master *Jus Hummel* Built at *Antwerp*By whom built *Antwerp shipbuilding Co.*When built *1906*Engines made at *Sunderland*By whom made *The N.E. Marine Engineering Co. (Ld)*when made *1906*Boilers made at *Sunderland*By whom made *The N.E. Marine Engineering Co. (Ld)*when made *1906*

Registered Horse Power

Owners *Andreas Ejersee*Port belonging to *Tromsø*Nom. Horse Power as per Section 28 *14/8*Is Refrigerating Machinery fitted for cargo purposes ☒Is Electric Light fitted ☒

ENGINES, &c.—Description of Engines

*Triple Expansion (Inverted)*No. of Cylinders *Three*No. of Cranks *Three*Dia. of Cylinders *19-31-51*Length of Stroke *36*Revs. per minute *45*Dia. of Screw shaft *as per rule 11.623*Material of *Iron*Material of *Iron*Is the screw shaft fitted with a continuous liner the whole length of the stern tube *no*

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 *Rubber protection at ends*Length of stern bush *4-0*Dia. of Tunnel shaft *as per rule 9.58*Dia. of Crank shaft journals *as per rule 10.06*Dia. of Crank pin *10-8*Size of Crank webs *25 x 17 1/2*

Dia. of thrust shaft under

collars *as fitted 9.58*Dia. of screw *14-0*Pitch of Screw *14-0*No. of Feed pumps *Two*Diameter of ditto *3*Stroke *1-4 1/2*Can one be overhauled while the other is at work *yes*No. of Bilge pumps *Two*Diameter of ditto *3 1/2*Stroke *1-4 1/2*Can one be overhauled while the other is at work *yes*No. of Donkey Engines *Two*Duplex Sizes of Pumps *6 x 7 x 9 1/2 and 5 x 3 x 4 1/2*

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

In Engine Room *Three 2 1/2*In Holds, &c. *Two in each hold 2 1/2*Ballast Tank Suctions *2 1/2*No. of Bilge Injections *One*sizes *3 1/4*Connected to condenser, or to circulating pump *Yes*Is a separate Donkey Suction fitted in Engine room & size *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 *Yes*Are all connections with the sea direct on the skin of the ship *Yes*Are they Valves or Cocks *valves + cocks*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 *Yes*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 *12/10/06*of Stern Tube *17/10/06*Screw shaft and Propeller *17/10/06*Is the Screw Shaft Tunnel watertight *Yes*Is it fitted with a watertight door *Yes*worked from *Engine Room*BOILERS, &c.—(Letter for record *5*)Manufacturers of Steel *J. & C. Spencer & Sons Ltd, & Messrs. Beighton & Co. Ltd.*Total Heating Surface of Boilers *2492*Is Forced Draft fitted *No*No. and Description of Boilers *Two, single ended, cyl. & mult.*Working Pressure *180 lb.*Tested by hydraulic pressure to *360 lb.*Date of test *10/10/06*No. of Certificate *2532*Can each boiler be worked separately *Yes*Area of fire grate in each boiler *43 1/8*

No. and Description of Safety Valves to

each boiler *Two, Spring loaded*Area of each valve *347 sq. in.*Pressure to which they are adjusted *185 lb. sq. in.*Are they fitted with easing gear *Yes*Smallest distance between boilers or uptakes and bunkers or woodwork *18"*Mean dia. of boilers *12-4*Length *10-6*Material of shell plates *steel*Thickness *1"*Range of tensile strength *28 3/4 to 52 lb.*Are the shell plates welded or flanged *no*Descrip. of riveting: cir. seams *2 to 5 R.*long. seams *5 to 8 TR*Diameter of rivet holes in long. seams *1 1/32*Pitch of rivets *4 1/8*Lap of plates or width of butt straps *15 1/4*

Per centages of strength of longitudinal joint

rivets *84.1*plate *85.5*Working pressure of shell by rules *180.8 lb.*Size of manhole in shell *end 16 x 12*Size of compensating ring *flanged*No. and Description of Furnaces in each boiler *Two plain*Material *steel*Outside diameter *41 1/2*Length of plain part *top 6-5 1/4*bottom *6-5 1/4*Thickness of plates *top 1 1/4*bottom *1 1/4*Description of longitudinal joint *Weld*No. of strengthening rings *—*Working pressure of furnace by the rules *183.7 lb.*Combustion chamber plates: Material *steel*Thickness: Sides *1 1/8*Back *25/32*Top *1 1/8*Bottom *1 1/8*Pitch of stays to ditto: Sides *8 1/2 x 10 3/8*Back *10 1/2 x 11 1/8*Top *10 3/8 x 8 1/2*If stays are fitted with nuts or riveted heads *nuts*Material of stays *steel*Diameter at smallest part *1 1/8*Area supported by each stay *88-117*Working pressure by rules *180.2 lb.*

End plates in steam space:

Material *steel*Thickness *1 1/4*Pitch of stays *22 1/2 x 17 3/4*How are stays secured *DN + W*Working pressure by rules *180.2 lb.*Diameter at smallest part *3 1/4*Area supported by each stay *400*Working pressure by rules *180.2 lb.*Material of Front plates at bottom *steel*Thickness *1 3/8*Material of Lower back plate *steel*Thickness *1 5/8*Greatest pitch of stays *16 5/8 x 12*Working pressure of plate by rules *192 lb.*Diameter of tubes *3 1/4*Pitch of tubes *4 3/4 x 4 1/2*Material of tube plates *steel*Thickness: Front *1 3/8*Back *1 3/8*Mean pitch of stays *10 3/8*Pitch across wide water spaces *14 1/2*Working pressures by rules *215 lb.*Girders to Chamber tops: Material *steel*

Depth and

thickness of girder at centre *8 1/4 x 15 1/8*Length as per rule *28 1/2*Distance apart *10 3/8*Number and pitch of stays in each *Two 8 1/2*Working pressure by rules *180 lb.*

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. *10* Description *Donkey Boiler*
 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 connecting rod top end bolts nuts 2 bottom end bolts nuts, 2 main bearing bolts, 1 set coupling bolts, 1 set feed & bilge pump valves, one propeller, 1/3 crank shaft.*

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING CO. LTD.

Manufacturer.

Walter Beattie & Co.

Dates of Survey while building { During progress of work in shops— 1906 July 12, Aug. 9, 14, 15, 16, 20, 23, 28, 31, Sept. 5, 7, 12, 13, 15, 17, 19, 21, 25, 27, Oct. 2, 4, 5, 8, 9, 10, 11, 16.
 { During erection on board vessel— October 5, 12, 22, 25, 29, November 5, 7, 9, 12.
 Total No. of visits *27 + 9 = 36*

Is the approved plan of main boiler forwarded herewith *yes*.

" " " donkey " " " *no*

Dates of Examination of principal parts—Cylinders *17/9 2/10* Slides *16/10* Covers *2/10* Pistons *8/10* Rods *12/9*
 Connecting rods *12/9* Crank shaft *17/9 2/10 16/10* Thrust shaft *13/9 15/9* Tunnel shafts *26/9 2/10 4/10* Screw shaft *27/9 2/10 11/10* Propeller *3/10 12/9*
 Stern tube *7/9 2/10* Steam pipes tested *5/11/06* Engine and boiler seatings *9/11/06* Engines holding down bolts *9/11/06*
 Completion of pumping arrangements *17/11/06* Boilers fixed *17/11/06* Engines tried under steam *17/11/06*
 Main boiler safety valves adjusted *17/11/06* Thickness of adjusting washers *5/16 7. 5/16 9.*
 Material of Crank shaft *steel* Identification Mark on Do. *LLoyds 349 D AB* Material of Thrust shaft *steel* Identification Mark on Do. *LLoyds 540 P.R. 6 H 06*
 Material of Tunnel shafts *steel* Identification Marks on Do. *1992 H 06 569 1991 1990* Material of Screw shafts *iron* Identification Marks on Do. *LLoyds 345 D 350 D AB AB*
 Material of Steam Pipes *Copper* Test pressure *360 lbs per sq. in.*

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

The Engines & Boilers of this Vessel have been constructed under special survey, the Material & workmanship sound & good & the Boilers have been subjected to Hydraulic pressure in accordance with the Rules

The Engines & Boilers have been fitted on board in accordance with the Rules. The safety valves have been adjusted under steam and the Engines tried, the same working well—

*This Vessel is Eligible in our opinion to have the Notation * LMC 11-06 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD

ILM.C. 11.06.

The amount of Entry Fee. £ *2* : : When applied for, *10.11.06*
 Special .. £ *17* : *12* : :
 Donkey Boiler Fee *adj. ant.* £ *8* : *16* : : When received, *19.11.06*
 Travelling Expenses (if any) £ : : : *19.11.06*

Committee's Minute

Assigned

TUES. NOV 27 1906

+ LMC 11.06.

MACHINERY CERTIFICATE WRITTEN.



Lloyd's Register Foundation