

COPY
REPORT ON MACHINERY.

No. 26164

Received at London Office.

Date of writing Report 1-7-1914 When handed in at Local Office 2-7-1914 Port of **SUNDERLAND.**
No. in Survey held at **Sunderland & Antwerp.** Date, First Survey **23 Feb.** Last Survey **17.12.14**
Reg. Book. on the **HANS JENSEN** (Number of Visits **32+6=38**) Gross **1778** Tons Net **1383**
Master - **Hofed** Built at **Antwerp** By whom built **Antwerp Engineering Co. Ltd (S.A.B.C.)** When built **1914**
Engines made at **Sunderland** By whom made **George Blank Ltd (No 1006)** when made **1914**
Boilers made at **Sunderland** By whom made **George Blank Ltd (No 1006)** when made **1914**
Registered Horse Power Owners **Thos. Dampskibsselskab "Rosita"** Port belonging to **Copenhagen.**
Nom. Horse Power as per Section 28 **187** 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 **20" 31" 53"** Length of Stroke **36** Revs. per minute **70** Dia. of Screw shaft **11 1/4"** Material of screw shaft **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 **3'-9"**
Dia. of Tunnel shaft **9 1/8"** Dia. of Crank shaft journals **10 1/2"** Dia. of Crank pin **10 1/2"** Size of Crank webs **15x6 1/2"** Dia. of thrust shaft under
collars **10 3/4"** Dia. of screw **14'-0"** Pitch of Screw **15'-0"** No. of Blades **4** State whether moveable **No** Total surface **66 sq ft**
No. of Feed pumps **2** Diameter of ditto **2 3/4"** Stroke **20"** Can one be overhauled while the other is at work **Yes**
No. of Bilge pumps **2** Diameter of ditto **3 1/2"** Stroke **20"** Can one be overhauled while the other is at work **Yes**
No. of Donkey Engines **Two** Sizes of Pumps **Ballast 6x7x7 Feed 5 1/4x3 1/2x5** No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room **2 of 2 3/4"** In Holds, &c. **1 Hold 2 of 2 3/4" 1 Hold 2 of 2 1/4"**
No. of Bilge Injections **1** sizes **3"** Connected to condenser, or to circulating pump **Yes** Is a separate Donkey Suction fitted in Engine room & size **Yes**
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 **9-7-14** of Stern Tube **9-7-14** Screw shaft and Propeller **9-7-14**
Is the Screw Shaft Tunnel watertight **Yes** Is it fitted with a watertight door **Yes** worked from **Main deck level.**

BOILERS, &c.—(Letter for record **S**) Manufacturers of Steel **Johns & Sons Ltd & Selankishner Bagwerks-Actien Gesellschaft**
Total Heating Surface of Boilers **2940 sq ft** Is Forced Draft fitted **No** No. and Description of Boilers **Two single ended marine**
Working Pressure **180** Tested by hydraulic pressure to **360** Date of test **17-6-14** No. of Certificate **3225**
Can each boiler be worked separately **Yes** Area of fire grate in each boiler **36 sq ft** No. and Description of Safety Valves to
each boiler **Two direct spring** Area of each valve **3.940"** 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 **14"** Mean dia. of boilers **13'-0"** Length **10'-0"** Material of shell plates **Steel**
Thickness **1"** Range of tensile strength **29 1/2-33** Are the shell plates welded or flanged **No** Descrip. of riveting: cir. seams **DR**
long. seams **DRS, TR** Diameter of rivet holes in long. seams **1 1/16"** Pitch of rivets **7 1/16"** Lap of plates or width of butt straps **16"**
Per centages of strength of longitudinal joint **89** Working pressure of shell by rules **180 lbs.** Size of manhole in shell **16x12"**
Size of compensating ring **flanged** No. and Description of Furnaces in each boiler **2 maison bon** Material **Steel** Outside diameter **3'-10 1/8"**
Length of plain part **top 3 3/8"** Thickness of plates **bottom 3 3/8"** Description of longitudinal joint **welded** No. of strengthening rings **—**
Working pressure of furnace by the rules **184** Combustion chamber plates: Material **Steel** Thickness: Sides **1 1/16"** Back **1 1/16"** Top **1 1/16"** Bottom **1 3/16"**
Pitch of stays to ditto: Sides **10"x9"** Back **9 1/4"x9 3/4"** Top **9"x10"** If stays are fitted with nuts or riveted heads **nuts in use** Working pressure by rules **180**
Material of stays **Steel** Diameter at smallest part **2-360"** Area supported by each stay **908 1/4 sq in** Working pressure by rules **2034 1/8** End plates in steam space
Material **Steel** Thickness **1 3/16"** Pitch of stays **2'x16"** How are stays secured **DR** Working pressure by rules **181** Material of stays **Steel**
Diameter at smallest part **5.945"** Area supported by each stay **3420"** Working pressure by rules **180** Material of Front plates at bottom **Steel**
Thickness **1 3/16"** Material of Lower back plate **Steel** Thickness **1 5/16"** Greatest pitch of stays **14 3/4"x9 3/4"** Working pressure of plate by rules **194**
Diameter of tubes **3 1/4"** Pitch of tubes **4 1/2"x4 3/8"** Material of tube plates **Steel** Thickness: Front **1 3/16"** Back **3/4"** Mean pitch of stays **11 1/8"**
Pitch across wide water spaces **14 1/2"x10"** Working pressures by rules **264** Girders to Chamber tops: Material **Steel** Depth and
thickness of girder at centre **20 6 3/4"x7 1/2"** Length as per rule **2'-4 1/2"** Distance apart **9"** Number and pitch of stays in each **2 @ 10"**
Working pressure by rules **188** Superheater or Steam chest; how connected to boiler **line** 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 **—**

22, 24, 27, 29
3, 6, 8, 11

VERTICAL DONKEY BOILER—

Manufacturers of Steel

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 _____ Description of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Dia. 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 Top & 2 Bottom end bolts & nuts - 2 main bearing bolts & nuts - 1 set coupling bolts - 1 set feed & bilge pump valves - various sizes of bolts & nuts & rod iron - several spare Condenser & boiler tubes -

The foregoing is a correct description, W. G. Bruce
FOR GEORGE CLARK, LIMITED

Manufacturer of Main Engines & Boilers.

Dates of Survey while building { During progress of work in shops -- } 1914 21 22 23 24 25 26 27 28 29 30 31
{ During erection on board vessel -- } 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Total No. of visits 38.

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " " yes

Dates of Examination of principal parts—Cylinders 18-5-14 Slides 19-6-14 Covers 8-6-14 Pistons 19-5-14 Rods 20-5-14
Connecting rods 26-5-14 Crank shaft 9-4-14 Thrust shaft 11-6-14 Tunnel shafts 15-5-14 Screw shaft 11-6-14 Propeller 10-6-14
Stern tube 27-5-14 Steam pipes tested 17-9-14 Engine and boiler seatings 29-7-14 Engines holding down bolts 17-9-14
Completion of pumping arrangements 29-9-14 Boilers fixed 28-9-14 Engines tried under steam 28-9-14
Main boiler safety valves adjusted 6-10-14 Thickness of adjusting washers S. 3/4" P. 5/16" P. 1/4"
Material of Crank shaft 1. steel Identification Mark on Do. 5305 HK Material of Thrust shaft 1. steel Identification Mark on Do. 39 E. 15
Material of Tunnel shafts 1. steel Identification Marks on Do. 354-5-6 7AL Material of Screw shafts 1. steel Identification Marks on Do. 25 E. 15
Material of Steam Pipes Lapwelded H.T. screwed flanges. Test pressure 540 lbs.

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

The materials and workmanship are good.

The machinery has been made under special survey and will be shipped to Antwerp to be fitted in the vessel. Surveyors advised at that port.

The Engines & boilers have now been fitted on board in a satisfactory manner & together with the auxiliary machinery tried under working conditions & found good and eligible, in my opinion, to have the record of T.L.M.C. 10-14.

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 10.14.

The amount of Entry Fee .. £ 2 : : When applied for.
Special 3/3 FEE .. £ 18 : 14 : : 7-7-14
1/3 Due ante .. £ 9-7-0 : : :
Donkey Boiler Fee .. £ : : :
Travelling Expenses (if any) £ : : : 31-8-14 1914

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

Committee's Minute

TUE OCT 20 1914

Assigned

+ L.M.C. 10.14



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Foundation