Rpt. 4.

REPORT ON MACHINERY.

No. 20766

Port of Hull

Received at London Office WED 16 DEC 1908 19

No. in Reg. Book. 57 Suppl. Survey held at Hull Date, first Survey May 12th Last Survey 7th Dec 1908 (Number of Visits 39.)

on the Steel Sc. Sr. Summersgill Tons Gross 256 Net 97

Master Built at Dundee By whom built When built 1908

Engines made at Hull By whom made Messrs. Earle's Co Ld when made 1908

Boilers made at Hull By whom made Earle's Co Ld when made 1908

Registered Horse Power Owners Hamilton Shipping Co Ltd Port belonging to Liverpool

Nom. Horse Power as per Section 28 43. ✓ Is Refrigerating Machinery fitted for cargo purposes No ✓ Is Electric Light fitted No ✓

ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 ✓ No. of Cranks 2 ✓

Dia. of Cylinders 14" ~ 29" ✓ Length of Stroke 21" Revs. per minute 119 Dia. of Screw shaft as per rule 6.46" as fitted 6¾" ✓ Material of screw shaft Iron

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 one length 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 29¾"

Dia. of ~~Tunnel~~ plain part thrust shaft as per rule 5.69 ✓ as fitted 5⅞" ✓ Dia. of Crank shaft journals as per rule 5.97" ✓ as fitted 6¼" ✓ Dia. of Crank pin 6¼" ✓ Size of Crank webs 12" × 4" ✓ Dia. of thrust shaft under collars 6¼" ✓ Dia. of screw 8'~0" ✓ Pitch of Screw 8'~6" No. of Blades 4 State whether moveable No Total surface 22 □ft

No. of Feed pumps 1 ✓ Diameter of ditto 2½" Stroke 10" Can one be overhauled while the other is at work ✓

No. of Bilge pumps 1 ✓ Diameter of ditto 2½" Stroke 10" Can one be overhauled while the other is at work ✓

No. of Donkey Engines One ✓ Sizes of Pumps 5" × 3½" × 5" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 2" In Holds, &c. One 2" from each, the hold, after peak tank, and fore peak tank, Ejector suction from all parts.

No. of Bilge Injections 1 sizes 3½" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 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 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 below

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 Hold tank suction 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 3·12·08 of Stern Tube 3·12·08 Screw shaft and Propeller 3·12·08

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record S ✓) Manufacturers of Steel Phoenix Act. Gesell. fur. Berg. Hoerder Verein Germany

Total Heating Surface of Boilers 835 □ft ✓ Is Forced Draft fitted No ✓ No. and Description of Boilers 1 Cyl. Multi. ✓

Working Pressure 120 lbs ✓ Tested by hydraulic pressure to 240 lbs ✓ Date of test 7·10·08 ✓ No. of Certificate 1648

Can each boiler be worked separately ✓ Area of fire grate in ~~each~~ boiler 29·7 □ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 4·91 □" Pressure to which they are adjusted 125 lbs ✓ Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 6½" ✓ ~~Mean~~ Int. dia. of boilers 10'~6" Length 9'~6" Material of shell plates Steel ✓

Thickness 11/16" ✓ Range of tensile strength 28·32 tons ✓ Are the shell plates welded or flanged No ✓ Descrip. of riveting: cir. seams L.D. ✓

long. seams D.B.S.D.R ✓ Diameter of rivet holes in long. seams 15/16" ✓ Pitch of rivets 5⅛" ✓ ~~Lap of plates or~~ width of butt straps 10" ✓

Per centages of strength of longitudinal joint rivets 87. plate 81.7 Working pressure of shell by rules 128 lbs Size of manhole in shell 16" × 12" ✓

Size of compensating ring 31" × 28" × 11/16" ✓ No. and Description of Furnaces in ~~each~~ boiler 2 plain ✓ Material Steel ✓ Outside diameter 37" ✓

Length of plain part top 75" bottom 103" Thickness of plates crown 11/16" bottom 11/16" Description of longitudinal joint Welded ✓ No. of strengthening rings 0 ✓

Working pressure of furnace by the rules 133 lbs Combustion chamber plates: Material Steel Thickness: Sides 11/16" Back 19/32" Top 9/16" Bottom 11/16" ✓

Pitch of stays to ditto: Sides 10" × 9" Back 11" × 8¾" Top 9" × 8" If stays are fitted with nuts or riveted heads Nuts ✓ Working pressure by rules 123 lbs

Material of stays Steel Diameter at smallest part 1⅜" Area supported by each stay 96·25 □" Working pressure by rules 123 lbs End plates in steam space:

Material Steel Thickness 25/32" ✓ Pitch of stays 16" × 14" How are stays secured D-N. ✓ Working pressure by rules 122 lbs Material of stays Steel ✓

Diameter at smallest part 1·84" Area supported by each stay 224 □" Working pressure by rules 123 lbs Material of Front plates at bottom Steel

Thickness 13/16" ✓ Material of Lower back plate Steel ✓ Thickness 25/32" ✓ Greatest pitch of stays 14¼" × 11" ✓ Working pressure of plate by rules 130 lbs

Diameter of tubes 3¼" ✓ Pitch of tubes 4¾" × 4¾" ✓ Material of tube plates Steel ✓ Thickness: Front 13/16" ✓ Back 23/32" ✓ Mean pitch of stays 9½" ✓

Pitch across wide water spaces 14¼" ✓ Working pressures by rules 141 lbs Girders to Chamber tops: Material Steel ✓ Depth and thickness of girder at centre 6" × 1½" ✓ Length as per rule 2'-5 23/32" Distance apart 8" ✓ Number and pitch of stays in each Two 9" ✓

Working pressure by rules 150 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

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 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 :— Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each feed and bilge pump valves, a propeller, and a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,

T. J. Oakthorpe Manufacturer.

Dates of Survey while building — During progress of work in shops— 1908:- May 12, 20, Jun 3. 25. July 4. 9. 16. 20. 25. 30. 31. Aug 21. 28. 31. Sep 1. 2. 8. 9. 10. 16. 22. 23

During erection on board vessel — Sep 29. Oct 2. 6. 7. 9. 13. 15. 21. Nov 4. 14. 30. Dec 1. 2. 3. 4. 5. 7.

Total No. of visits 39.

Is the approved plan of main boiler forwarded herewith Yes

" " " ~~donkey~~ " " "

Dates of Examination of principal parts— Cylinders 25.7.08 Slides 2.9.08 Covers 25.7.08 Pistons 25.6.08 Rods 25.6.08

Connecting rods 31.8.08 Crank shaft 16.7.08 Thrust shaft 2.9.08 ~~Tunnel shafts~~ Screw shaft 1.12.08 Propeller 1.12.08

Stern tube 1.12.08 Steam pipes tested 5.12.08 Engine and boiler seatings 1.12.08 Engines holding down bolts 7.12.08

Completion of pumping arrangements 7.12.08 Boilers fixed 7.12.08 Engines tried under steam 7.12.08

Main boiler safety valves adjusted 7.12.08 Thickness of adjusting washers 5/16" & 3/8"

Material of Crank shaft ~~Steel~~ Iron Identification Mark on Do. 2081. A.T.C. Material of Thrust shaft Iron Identification Mark on Do. 14Y. GAH

~~Material of Tunnel shafts~~ ~~Identification Marks on Do.~~ Material of Screw shafts Iron Identification Marks on Do. 14Y. GAH

Material of Steam Pipes Solid drawn copper. Test pressure 300 lbs per sq. inch.

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been constructed under special survey in accordance with the Rules, the materials and workmanship are sound and good, the boiler tested by hydraulic pressure, and with the engines secured on board, tried under steam and found satisfactory, they are now in good order and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of ✠LM. 6.12.08 in the Register Book.

Certificate (if required) to be sent to Hull

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

It is submitted that this vessel is eligible for THE RECORD. +LMC. 12.08

D.R.R. 16.12.08

H.G.D. 16/12/08.

The amount of Entry Fee .. £ 1 : - :
Special .. .. .. £ 8 : : When applied for. 15/12/1908.
Donkey Boiler Fee .. .. £ : : : When received. 16/1/09
Travelling Expenses (if any) £ : : :

16/1/09

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

Committee's Minute FRI. 18 DEC 1908 TUES. 22 DEC 1908

Assigned +LM 6.12.08

MACHINERY CERTIFICATE WRITTEN.