

REPORT ON MACHINERY.

No. 27817

Date of writing Report 5th Aug. 14. When handed in at Dock Office10th Aug. 14. Port of Hull

Received at London Office AUG. 12. 1914

No. in Survey held at Reg. Book.

Date, First Survey Feb. 10th 1914

Last Survey 29. 7. 1914

417. on the SSK "PERIHELION."

CH 1060

(Number of Voids 28. Gross 215

Master Built at Hull By whom built Coale S.B. Repg. Co. Ltd. Tons Net 98

Engines made at Hull By whom made C.D. Holden & Co. Ltd. when made 1914.

Boilers made at Hull By whom made C.D. Holden & Co. Ltd. when made 1914.

Registered Horse Power Owners Grimsby & N. Sea Ste. Trawling Co. Ltd. Belonging to Grimsby

Nom. Horse Power as per Section 28 46 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 12" 21 1/2" 35" Length of Stroke 34" Revs. per minute

Dia. of Screw shaft as per rule 7.07 Material of screw shaft as fitted 7 1/2

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 yes 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

liners are fitted, is the shaft lapped or protected between the liners If two

Dia. of Tunnel shaft as per rule 6.29 Dia. of Crank shaft journals as per rule 6.61 Length of stern bush 3'0"

Dia. of Crank pin 7" Size of Crank 18x13 1/4" of thrust shaft under collars 7 1/2 Dia. of screw 8-7 1/2 Pitch of Screw 10-10 1/2 No. of Blades 4 State whether moveable no Total surface 29 ft

No. of Feed pumps 1 Diameter of ditto 2 1/2 Stroke 14 1/4 Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 2 1/2 Stroke 14 1/4 Can one be overhauled while the other is at work

No. of Donkey Engines One Sizes of Pumps 6"x3"x6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2-2" One forward, one aft In Holds, &c. 2-2" Forward Slushwell

Aft Slushwell ejector suction from all bilges

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

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 Hold 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 11.5.14. of Stern Tube 11.5.14. Screw shaft and Propeller 11.5.14.

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S. Manufacturers of Steel Phoenix Co. of Harde

Total Heating Surface of Boilers 1313 Is Forced Draft fitted no No. and Description of Boilers One single-ended.

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 15.5.14. No. of Certificate 2087.

Can each boiler be worked separately Area of fire grate in each boiler 33 ft No. and Description of Safety Valves to

each boiler 2 Spring Area of each valve 3.9 sq. Pressure to which they are adjusted 184 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 6" Mean dia. of boilers 12'6" Length 10'0" Material of shell plates S.

Thickness 1" Range of tensile strength 24 tons Are the shell plates welded or flanged Descrip. of riveting: cir. seams BRK.

Long. seams BRK. Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 7 1/8 Lap of plates or width of butt straps 15"

Per centages of strength of longitudinal joint rivets 89.3 plate 85.5 Working pressure of shell by rules 182. Size of manhole in shell 16"x12"

Size of compensating ring 7"x1" No. and Description of Furnaces in each boiler 2 plain Material S. Outside diameter 3'7"

Length of plain part top 6-5 1/2 crown 13" bottom 7 1/2 Thickness of plates 7/16 Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 184 Combustion chamber plates: Material S. Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 1"

Pitch of stays to ditto: Sides 9x10 Back 9 1/2 x 8 1/2 Top 10x9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181.

Material of stays S. Diameter at smallest part 2.07" Area supported by each stay 110.5" Working pressure by rules 193. End plates in steam space

Material S. Thickness 1 1/16 Pitch of stays 17x17 How are stays secured BRK. Working pressure by rules 185. Material of stays S.

Diameter at smallest part 5.79 Area supported by each stay 289" Working pressure by rules 207. Material of Front plates at bottom S.

Thickness 7/8 Material of Lower back plate S. Thickness 29/32 Greatest pitch of stays 14 1/2 x 9 1/2 Working pressure of plate by rules 188.

Diameter of tubes 3 1/4 Pitch of tubes 4 1/4 x 4 1/4 Material of tube plates S. Thickness: Front 7/8 Back 7/8 Mean pitch of stays 9 1/2

Pitch across wide water spaces 15'4" Working pressures by rules 180. Girders to Chamber tops: Material S. Depth and

Thickness of girder at centre 7 1/4 x 1 1/4 Length as per rule 2'6 1/2 Distance apart 9" Number and pitch of stays in each 2 at 10"

Working pressure by rules 196 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

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IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:— Two each top and bottom end connecting rod bolts and nuts, one set of coupling bolts & nuts, one set each feed and bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.
2 main bearing bolts & nuts (lbs 15.8.14)

The foregoing is a correct description,

p. pro CHARLES D. HOLMES & CO. LTD.

Harold Shaslow DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops - 1914 - Feb 10 Mar 13. 26. 31 Apr 6. 18. 24. 27. 28. May 1. 4. 6. 7. 8. 9. 11. 13. 14. 15. 20. 25. Jun 15.
During erection on board vessel - Jul 1. 4. 16. 18. 24. 29
Total No. of visits 28.

Is the approved plan of main boiler forwarded herewith *Rpt 27768*

Dates of Examination of principal parts—Cylinders *31.3.14* Slides *31.3.14* Covers *27.4.14* Pistons *27.4.14* Rods *4.5.14*
Connecting rods *4.5.14* Crank shaft *24.4.14* Thrust shaft *1.4.14* Tunnel shafts ✓ Screw shaft *6.4.14* Propeller *6.4.14*
Stern tube *6.4.14* Steam pipes tested *16.7.14* Engine and boiler seatings *11.5.14* Engines holding down bolts *4.7.14*
Completion of pumping arrangements *29.7.14* Boilers fixed *4.7.14* Engines tried under steam *24.7.14*
Main boiler safety valves adjusted *27.7.14* Thickness of adjusting washers *FV 5/16" AV 7/16"*
Material of Crank shaft *S* Identification Mark on Do. *1125* Material of Thrust shaft *S* Identification Mark on Do. *1125*
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *S* Identification Marks on Do. *1125*
Material of Steam Pipes *Copper solid drawn* Test pressure *360lbs. hyd. pressure*
Is an installation fitted for burning oil fuel ✓ Is the flash point of the oil to be used over 150°F. ✓

Have the requirements of Section 49 of the Rules been complied with ✓

Is this machinery duplicate of a previous case *yes*. If so, state name of vessel *"Empirean"*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines & boiler of this vessel have 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 and tested under steam 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 + LMC 7.14 in the Register book.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 7.14

The amount of Entry Fee ... £ 1 :
Special ... £ 11 : 8
Donkey Boiler Fee ... £
Travelling Expenses (if any) £ 3 : 2

When applied for,

11/8/14

When received,

31.9.14

Committee's Minute *FRI AUG 14 1914*

Assigned *+ LMC 7.14*

J. G. Mackillop
Engineer Surveyor to Lloyd's Register of British & Foreign Ships



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Name of Master

of Owners

Residence, and Description

The Grimsby & North Sea Dock Co. Ltd.

Manager: - J. G. Mackillop

ed 25 August

1862) Wt. 28981/72 1000 11-12

1762) 20210