

REPORT ON MACHINERY.

Port of Grimby Received at London Office THUR. 27 OCT 1904
 Date, first Survey July 6th Last Survey October 7 1904
 (Number of Visits 16)
 on the Steel Steamer *INGOMAR* Tons { Gross 216
 Net 80
 Built at Selly By whom built Bochmans & Sons When built 1904
 By whom made G. Central Co. of Eng. & S. R. L. when made 1904
 By whom made The Central Marine Eng. Co. when made 1904
 Owners E. Bacon J. Port belonging to Grimby
 Horse Power as per Section 28 66.5 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines 3 No. of Cylinders 3 No. of Cranks 3
 of Cylinders 1 1/2 2 3 3 Length of Stroke 24 Revs. per minute 115 Dia. of Screw shaft 6.9 Lgth. of stern bush 2-6
 Dia. of Crank shaft journals 6.4 Dia. of Crank pin 6 3/4 Size of Crank webs 12x4 Dia. of thrust shaft under
 Dia. of screw 8-6 Pitch of screw 10-3 No. of blades 4 State whether moveable no Total surface 27 1/2
 Feed pumps 1 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work ✓
 Bilge pumps 1 Diameter of ditto 3 Stroke 12 Can one be overhauled while the other is at work ✓
 Donkey Engines 1 Sizes of Pumps 3 1/2 in. 6 stroke No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room Sea Bilge & Stowell 2 bore. In Holds, &c. Fish hold. Res. Bunkers & Deck
 bilge injections 1 sizes 2 1/2 Connected to condenser, or to circulating pump no Is a separate donkey suction fitted in Engine room & size 2 1/2 in.
 Are 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 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 At deep water line
 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
 How are they protected Strong 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
 Were stern tube, propeller, screw shaft, and all connections examined in dry dock not stated Is the screw shaft tunnel watertight no
 Is it fitted with a watertight door no worked from ✓ *See Gms letter dated 28/10/04*

BOILERS, &c.— (Letter for record) Total Heating Surface of Boilers _____ Is forced draft fitted _____
 Description of Boilers _____ Working Pressure _____ Tested by hydraulic pressure to _____
 Can each boiler be worked separately _____ Area of fire grate in each boiler _____ No. and Description of safety valves to _____
 Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____
 Mean dia. of boiler _____ Length _____ Material of shell plates _____
 Range of tensile strength _____ Are they riveted or flanged _____ Descrip. of riveting: cir. seams _____ long. seams _____
 Pitch of rivets _____ Lap of plates or width of butt straps _____
 Working pressure of shell by rules _____ Size of manhole in shell _____
 Description of Furnaces in each boiler _____ Material _____ Outside diameter _____
 Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
 Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
 If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____
 Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space: _____
 How are stays secured _____ Working pressure by rules _____ Material of stays _____
 Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
 Material of tube plates _____ Thickness: Front _____ Back _____ Mean pitch of stays _____
 Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and _____
 Length as per rule _____ Distance apart _____ Number and pitch of Stays in each _____
 Superheater or Steam chest; how connected to boiler _____ Can the superheater be shut off and the boiler worked _____
 Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet _____
 Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____
 Distance between rings _____ Working pressure by rules _____ End plates: Thickness _____ How stayed _____
 Area of safety valves to superheater _____ Are they fitted with easing gear _____



DONKEY BOILER— No. Description

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves

No. of safety valves Area of each Pressure to which they are adjusted 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 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

Thickness of furnace crown plates Stayed by Working pressure of shell by rules

Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied: *Two sets of the bottom end Bolts, 2 main bearing bolts, one set Coupling bolts, one set each of air, feed & bilge pump valves, Check valves, boiler tubes, bolts, nuts, Studion etc.*

The foregoing is a correct description,

Manufacturer.

For the GREAT CENTRAL CO-OPERATIVE ENGINEERS & SHIP REPAIRING COMPANY, LTD.

Fred Lister

Dates of Survey while building

During progress of work in shops - -

During erection on board vessel - -

Total No. of visits

1904. July 6, 9, 18, 29. Aug. 9, 10, 12, 15. ~~Sept. 8, 14, 19, 21.~~
 October 1, 4, 7, 16.

Is the approved plan of main boiler forwarded herewith *Yes.*
 " " " donkey " " " *None.*

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

Material of screw shaft *Seapron* 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 If two liners are fitted, is the shaft lapped or protected between the liners

This machinery has been constructed and Special Survey. The material & workmanship good. The engine have been securely fastened on board and tried under steam. and in my opinion the case is eligible for record of + L.M.C. 10.04 (in red).

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.04

W. H. L.
 31.10.04
 1.11.04

this office. Fred.

Certificate (if required) to be sent to

The amount of Entry Fee. . . £ 1 : 00 When applied for, 26 Feb 1904

Special . . . £ 10 : 00

Donkey Boiler Fee . . . £ 11 : 00

Charging Expenses (if any) . . . £ 3 : 6

Committee's Minute . . . £ 7 : 14 : 0

When received, 15/12/04

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

TUES. 1 NOV 1904

+ L.M.C. 10.04.



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Assigned