

REPORT ON MACHINERY.

No. 8554.

Port of GRIMSBY

Received at London Office

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No. in Survey held at
Reg. Book.

GRIMSBY

Date, first Survey 16/1/12

Last Survey 8/1/1913

(Number of Visits 64)

on the S.S. Fentonian (Cochrane's No. 1)

Master Built at Selby By whom built Cochrane & Sons

Tons } Gross
Net

When built 1912

Engines made at Grimsby By whom made St. Central Co. of E. & R. Co.

when made 1913

Boilers made at do: By whom made do: when made 1913

Registered Horse Power Owners St. Central Co. of E. & R. Co.

Port belonging to Grimsby

Nom. Horse Power as per Section 28 75

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple Expansion Inverted No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 12 2 1/2 3 1/4 Length of Stroke 24 Revs. per minute 112 Dia. of Screw shaft as per rule 7.05 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 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 yes If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 35

Dia. of Tunnel shaft as per rule 6.3 Dia. of Crank shaft journals as per rule 6.61 Dia. of Crank pin 7 Size of Crank webs 4 1/4 x 13 Dia. of thrust shaft under

collars 7 Dia. of screw 8-6 Pitch of Screw 10-9 No. of Blades 4 State whether moveable no Total surface 28

No. of Feed pumps 1 Diameter of ditto 2 1/8 Stroke 24 Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 2 1/8 Stroke 24 Can one be overhauled while the other is at work

No. of Donkey Engines 1 Sizes of Pumps 6 x 3 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 ea. hotwell bilge In Holds, &c. 2 forehold, freshroom

No. of Bilge Injections 1 sizes 3 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 2 1/2 ejector

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 steam to windlass How are they protected wood casings

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 Seen at Hull 25/11/12 of Stern Tube at Hull 25/11/12 Screw shaft and Propeller at Hull 25/11/12

Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door worked from See Hull Ltr 22/1/13

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Phoenix A. G. Abt. Horde Verein

Total Heating Surface of Boilers 1340 Is Forced Draft fitted no No. and Description of Boilers one SE return tube

Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb. Date of test 14.12.12 No. of Certificate 107

Can each boiler be worked separately Area of fire grate in each boiler 35 No. and Description of Safety Valves to

each boiler 2 direct spring Area of each valve 3.98 Pressure to which they are adjusted 185 Are they fitted with easing gear yes

Smallest distance between boilers on uptakes and bunkers on woodwork 7 Mean dia. of boilers 12-6 Length 10-0 Material of shell plates S

Thickness 1 3/32 Range of tensile strength 28/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double

long. seams treble butt Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 7 3/4 Lap of plates or width of butt straps 16 5/8

Per centages of strength of longitudinal joint rivets 87.0 Working pressure of shell by rules 194 Size of manhole in shell 12 x 16

Size of compensating ring 16 x 16 x 1 1/8 No. and Description of Furnaces in each boiler 2 plain Material S Outside diameter 40 3/4

Length of plain part top 3 7/10 Thickness of plates crown 3/4 Description of longitudinal joint welded No. of strengthening rings none

Working pressure of furnace by the rules 181 Combustion chamber plates: Material S Thickness: Sides 2 1/32 Back 2 1/32 Top 2 1/32 Bottom 1 3/16

Pitch of stays to ditto: Sides 9 1/4 x 8 3/4 Back 9 x 8 3/4 Top 9 1/4 x 8 3/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 184

Material of stays S Diameter at smallest part 2 1/4 Area supported by each stay 8 1/2 Working pressure by rules 207 End plates in steam space:

Material S Thickness 1 1/8 Pitch of stays 17 1/2 x 18 How are stays secured washers Working pressure by rules 190 Material of stays S

Diameter at smallest part 6 1/2 Area supported by each stay 320 Working pressure by rules 215 Material of Front plates at bottom S

Thickness 1 1/2 Material of Lower back plate S Thickness 1 5/16 Greatest pitch of stays 16 Working pressure of plate by rules 180

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

Pitch across wide water spaces 14 1/4 Working pressures by rules 190 Girders to Chamber tops: Material S Depth and

thickness of girder at centre 2 (9 x 3/4) Length as per rule 31.5 Distance apart 8 1/4 Number and pitch of stays in each 2-9 1/4

Working pressure by rules 223 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

007276-007287-0280

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
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
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:— 200 top & bottom end & main bearing bolts & nuts, a set of coupling bolts & nuts, feed, bilge, circulating & air pump valves, safety & escape valves, safety valve springs, assorted bolts & nuts & iron.

The foregoing is a correct description,

Manufacturer.

THE GREAT CENTRAL CO-OPERATIVE
ENGINEERING & SHIP REPAIRING COMPANY, LTD

John Robinson, Acting Secretary

Dates of Survey while building	During progress of work in shops	1912 Jan 16-17-23 Feb 1-8-14-19-20 Mar 5-9-13
	During erection on board vessel	Apr 13-16-19-20 May 2-8-11-23-28-31 June 4-17-21-25 July 5-12-17-19 Aug 1-8-19-24-28
	Total No. of visits	63
	Is the approved plan of main boiler forwarded herewith	yes.

Dates of Examination of principal parts	Cylinders	HP 24/4 MP 11/5 LP 22/3	Slides	16/4	Covers	5/3	Pistons	5/3	Rods	LP 2/10 HP 1/8/11	
Connecting rods	HP 1/8/11 LP 2/10	Crank shaft	28/8	Thrust shaft	15/2	Tunnel shafts	✓	Screw shaft	16/11	Propeller	8/11
Stern tube	8/11	Steam pipes tested	2/1/13	Engine and boiler seatings	at Hull	Engines holding down bolts	2/1/13				
Completion of pumping arrangements	7/1/13	Boilers fixed	2/1/13	Engines tried under steam	6/1/13						
Main boiler safety valves adjusted	6/1/13	Thickness of adjusting washers	P 3/8 5 7/16								
Material of Crank shaft	iron	Identification Mark on Do.	28-8-12 W.H.R.	Material of Thrust shaft	Iron	Identification Mark on Do.	N° 608 15-12-13 G.M.				
Material of Tunnel shafts	✓	Identification Marks on Do.	✓	Material of Screw shafts	Iron	Identification Marks on Do.	N° 23 16-11-12 W.H.R.				
Material of Steam Pipes	Solid drawn copper - 6204-✓			Test pressure	360 lb						

General Remarks (State quality of workmanship, opinions as to class, &c. This machinery has been built under special survey, and the materials and workmanship are good. The boiler has been built in accordance with the approved plan, and on completion was tested by water to twice the working pressure & found tight & sound.

This machinery has been fitted on board the vessel in an efficient manner, and is eligible in my opinion for record of + LMC 1.13.

This vessel is sister to the St. Elysian - Imo report N° 7816.

It is submitted that this vessel is eligible for THE RECORD + LMC 1.13.

J.W.D. 18/1/13

The amount of Entry Fee..	£ 1 : -	When applied for,	15/1/13
Special	£ 11 : -	When received,	19/5/13
Donkey Boiler Fee	£ :		
Travelling Expenses (if any) £	:		

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

Committee's Minute

Assigned

TUE JAN 21 1913

+ LMC 1.13



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