

# REPORT ON MACHINERY.

No. 83930

Received at London Office 20 JAN 1921

Date of writing Report 19 When handed in at Local Office 20 JAN 1921 Port of London

No. in Survey held at Chatham Date, First Survey 22<sup>nd</sup> June 1920 Last Survey Aug. 19 1920

Reg. Book. 8473 on the S.S. "George Dixon" ex. "John Campbell" (Number of Visits 5)

Master Built at Greenock By whom built G. Brown & Co. Tons } Gross }  
 } Net }  
When built 1917

Engines made at Glasgow By whom made Scuderie & Silvepici & Co. when made 1917

Boilers made at Glasgow By whom made A. W. Dalgligh when made 1917

Registered Horse Power 83 Owners The Admiralty Port belonging to London

Nom. Horse Power as per Section 28 87 ✓ Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 12 1/2 - 21 - 35 Length of Stroke 26" Revs. per minute 110 Dia. of Screw shaft as per rule 7.50" Material of screw shaft as fitted 7.50" (Material of screw shaft)

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 34" ✓

Dia. of Tunnel shaft as per rule 6.57" Dia. of Crank shaft journals as per rule 6.9" Dia. of Crank pin 7 1/4" Size of Crank webs 13 3/4 x 4 3/4" Dia. of thrust shaft under collars 7 1/2" Dia. of screw 9 - 6" Pitch of Screw 11 - 1 1/2" No. of Blades 4 State whether moveable No Total surface 35.5 ✓

No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes ✓

No. of Bilge-pumps 2 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes ✓

No. of Donkey Engines Two Sizes of Pumps 6 x 3 x 6, 6 x 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 - 2" also ejector - 2" In Holds, &c. 2" from hold & four peaks

2" ejector separate suction from slush well.

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

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 Forward suction How are they protected Wood covering

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 ✓

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

**BOILERS, &c.**—(Letter for record (S)) Manufacturers of Steel

Total Heating Surface of Boilers 1619 ✓ Is Forced Draft fitted No No. and Description of Boilers One Single Ended

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 20/9/17 No. of Certificate 2462 T.L. BC. Text

Can each boiler be worked separately — Area of fire grate in each boiler 50 ✓ No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 4.9" Pressure to which they are adjusted Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 13 - 6" Length 10 - 0 15/16" Material of shell plates Slit

Thickness 1/32" Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.L. long. seams T.R. D.B.B. Diameter of rivet holes in long. seams 1 5/32" Pitch of rivets 4" Lap of plates or width of butt straps 17"

Per centages of strength of longitudinal joint rivets 89.3 Working pressure of shell by rules 180 Size of manhole in shell 16 x 12

Size of compensating ring 9 x 1 3/32 No. and Description of Furnaces in each boiler 3 plain Material slit Outside diameter 40 9/16"

Length of plain part top 8 1/2" Thickness of plates crown 2.57" Description of longitudinal joint weld No. of strengthening rings ✓

Working pressure of furnace by the rules 188 Combustion chamber plates: Material slit Thickness: Sides 1 1/16" Back 2 1/32" Top 1 1/16" Bottom 7/8"

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

Material of stays slit Area at smallest part 2.07" Area supported by each stay 82.25 Working pressure by rules 206 End plates in steam space: Material slit Thickness 1 1/16" Pitch of stays 17 3/8 x 17 How are stays secured 2.20" Working pressure by rules 181 Material of stays slit

Area at smallest part 2 13/16" Area supported by each stay 298 Working pressure by rules 215 Material of Front plates at bottom slit

Thickness 3/32" Material of Lower back plate slit Thickness 1 5/16" Greatest pitch of stays 12 x 9 Working pressure of plate by rules 219

Diameter of tubes 3 1/2" Pitch of tubes 5 1/4 x 3 1/2" Material of tube plates slit Thickness: Front 3 1/32" Back 7/8" Mean pitch of stays 10"

Pitch across wide water spaces 14" Working pressures by rules 184 Girders to Chamber tops: Material slit Depth and thickness of girder at centre 8 1/2" x 1 3/4" Length as per rule 32" Distance apart 9 1/2" Number and pitch of stays in each 2 - 9 1/2"

Working pressure by rules 197 Steam dome: description of joint to shell — % of strength of joint —

Diameter — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes —

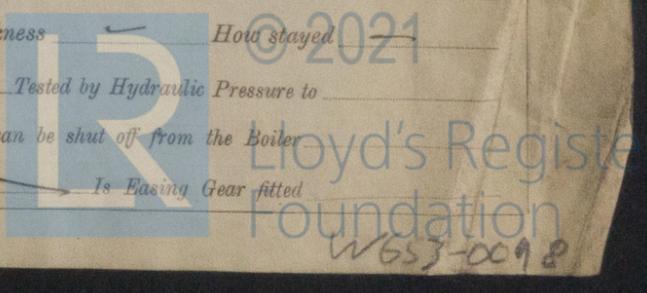
Pitch of rivets — Working pressure of shell by rules — Crown plates — Thickness — How stayed —

**SUPERHEATER.** Type Co Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test — Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve — Pressure to which each is adjusted — Is Easing Gear fitted —

ED NOT TO WRITE ACROSS THIS MARGIN.



IS A DONKEY BOILER FITTED? Yes

If so, is a report now forwarded? Yes

SPARE GEAR. State the articles supplied:— Two top end bolts, two bottom end bolts, two main bearing bolts, set of coupling bolts - all with nuts, feed & bilge pump valves, assorted iron, bolts, etc.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }  
{ During erection on board vessel - - - }  
Total No. of visits

Is the approved plan of main boiler forwarded herewith Yes  
" " " donkey " " " " " "

Dates of Examination of principal parts—Cylinders 22/6/20 Slides 22/6/20 Covers 22/6/20 Pistons 22/6/20 Rods 22/6/20  
Connecting rods 22/6/20 Crank shaft 22/6/20 Thrust shaft 22/6/20 Tunnel shafts ✓ Screw shaft 10/7/20 Propeller 10/7/20  
Stern tube \_\_\_\_\_ Steam pipes tested \_\_\_\_\_ Engine and boiler seatings 22/6/20 Engines holding down bolts 22/6/20  
Completion of pumping arrangements 22/6/20 Boilers fixed 22/6/20 Engines tried under steam \_\_\_\_\_  
Completion of fitting sea connections 10/7/20 Stern tube 10/7/20 Screw shaft and propeller \_\_\_\_\_  
Main boiler safety valves adjusted \_\_\_\_\_ Thickness of adjusting washers \_\_\_\_\_  
Material of Crank shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_ Material of Thrust shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_  
Material of Tunnel shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_ Material of Screw shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_  
Material of Steam Pipes Copper Test pressure \_\_\_\_\_  
Is an installation fitted for burning oil fuel Yes 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 S.S. James Cepell

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

The machinery of this was constructed under British Corporation Survey & is stated to be a duplicate of the "Castle Type" installed on "James Cepell."

The cylinders, pistons, slide valves, crank & thrust shafts, condenser, pumps, sea connections, stern tube, tail shaft & propeller, also the main boiler & its mountings, have been examined & are now in good order.

This vessel is in my opinion eligible to have notation L.M.C. (with date) in the Register Book when the safety valves have been adjusted & the machinery tried under steam.

Certificate (if required) to be sent to the Surveyors and not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £	When applied for,
Special ... £	19
Donkey Boiler Fee ... £	When received,
Travelling Expenses (if any) £	19

H Gardner-Smith  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
Assigned

TUE JAN. 25 1921 THE 20 DEC. 1921  
L.M.C. 8.20  
Subject.

CERTIFICATE WRITTEN



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