

REPORT ON MACHINERY

No. 2076

HU. DEC. 18. 1913

Received at London Office

PHILADELPHIA.

Date of writing Report 3-12-1913 When handed in at Local Office 4-12-1913 Port of PHILADELPHIA.
No. in Survey held at PHILADELPHIA. Date, First Survey 21-2-13 Last Survey Nov-24-1913
Reg. Book. Supp 53 on the s.s. Santa Cecilia (Number of Visits 48) Gross 6209.82
Master R. T. Anderson Built at PHILADELPHIA By whom built The Mr. Camp & Sons S. & E. B. C. When built 1913-11
Engines made at PHILADELPHIA By whom made The Mr. Camp & Sons S. & E. B. C. when made 1913-11
Boilers made at PHILADELPHIA By whom made No when made 1913-11
Registered Horse Power 611 Owners Atlantic & Pacific S.S. Co Port belonging to New York
Nom. Horse Power as per Section 28 611 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Quadruple No. of Cylinders 4 No. of Cranks 4
Dia. of Cylinders 25 1/2 x 52 1/2 Length of Stroke 54 Revs. per minute 70 Dia. of Screw shaft as per rule 15 1/2 Material of screw shaft as fitted 16 1/4
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 fitted close If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 6' 0 1/2
Dia. of Tunnel shaft as per rule 14 3/4 Dia. of Crank shaft journals as per rule 15 1/2 Dia. of Crank pin 15 1/2 Size of Crank webs 24 x 10 1/2 Dia. of thrust shaft under collars 5 1/4 Dia. of screw 18 0 Pitch of Screw 18 0 No. of Blades 4 State whether moveable Yes Total surface 87 ft
No. of Feed pumps 3 independent Diameter of ditto 2 x 8 Stroke 24 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
No. of Donkey Engines 2 duplex Sizes of Pumps 7 1/2, 10 1/4 x 10, 12 x 8 x 24 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 6 - 3 1/2 In Holds, &c. No 1 hold 4 - 3 1/2 No 2 hold 4 - 3 1/2
No 5 hold 4 - 3 1/2 No 6 hold 2 - 3 1/2 Tunnel well 1 - 3 1/2 A. Peak 1 - 3 1/2
No. of Bilge Injections 1 sizes 10 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 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 none
Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Lock
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 bilge tank pipes How are they protected Shut-off valves at each end
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 17. 9. 13 of Stern Tube 17. 9. 13 Screw shaft and Propeller 17. 9. 13
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper deck

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel D. Colville & Sons Scotland. Work B. B. H. S. A.
Total Heating Surface of Boilers 8446 ft Is Forced Draft fitted Yes No. and Description of Boilers 3. Mult. Single ended
Working Pressure 223 lb Tested by hydraulic pressure to 335 lb Date of test 24 9. 13 No. of Certificate 56
Can each boiler be worked separately Yes Area of fire grate in each boiler 41.5 ft No. and Description of Safety Valves to each boiler 2 direct spring Area of each valve 2.56 ft Pressure to which they are adjusted 223 lb Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers on woodwork 7' 0" Mean dia. of boilers 15' 7 1/2" Length 2' 4 1/2" Material of shell plates Steel
Thickness 1 1/4" Range of tensile strength 29 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap. d. T.
long. seams D.B.S. T.P. Diameter of rivet holes in long. seams 1 7/8" Pitch of rivets 8 8" Lap of plates or width of butt straps 21 3/4"
Per centages of strength of longitudinal joint rivets 95.0 Working pressure of shell by rules 241 lb Size of manhole in shell end 16 x 12
Size of compensating ring flanged in No. and Description of Furnaces in each boiler 4 Morrison Material Steel Outside diameter 43 1/4"
Length of plain part top Thickness of plates crown 5" Description of longitudinal joint welded No. of strengthening rings bottom 8" Back 3" Top 3" Bottom 3"
Working pressure of furnace by the rules 232 lb Combustion chamber plates: Material Steel Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"
Pitch of stays to ditto: Sides 7 x 7 1/2 Back 7 1/4 x 7 Top 7 x 7 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 370 lb
Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 52.5" Working pressure by rules 231 lb End plates in steam space: Material Steel Thickness 1 3/8" Pitch of stays 8 x 18 How are stays secured D. N. W. Working pressure by rules 239 lb Material of stays Steel
Diameter at smallest part 3 1/4" Area supported by each stay 324 lb Working pressure by rules 266 lb Material of Front plates at bottom Steel
Thickness 1 1/4" Material of Lower back plate Steel Thickness 1 1/8" Greatest pitch of stays 13 1/2 x 7 1/2 Working pressure of plate by rules 367 lb
Diameter of tubes 2 3/4" Pitch of tubes 4 x 4 Material of tube plates Steel Thickness: Front 1 1/6" Back 8" Mean pitch of stays 10"
Pitch across wide water spaces 14" Working pressures by rules 235 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 x 1 7/8 Length as per rule 36 1/2 Distance apart 7 1/2 Number and pitch of stays in each 4 - 7"
Working pressure by rules 242 lb Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked separately Yes
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

IS A DONKEY BOILER FITTED? *Yes*If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:—

1 Tail shaft. 2 propeller blades. Two sets of coupling bolts nuts. Two crosshead & two crank pin bolts nuts. Two main bearing bolts nuts. 6 propeller stud nuts. 1 valve spindle. 1 eccentric chap. 1 Thrust shoe. 1 shaft coupling. 1 Impeller shaft. A complete set of valves for all auxiliary pumps. Two crosshead & two crank pin braces, and a quantity of bolts iron.

The foregoing is a correct description,

J. P. Mettlee

THE WM. CRAMP & SONS SHIP & ENGINE BUILDING CO.

Manufacturers

of main engine boiler.

Dates of Survey while building { During progress of work in shops -- *Feb. 21-27. Mar. 10-18-27. April 9-14-17-23-29. May 12-20-22. June 2-5-10-13-16-20-26-30. July 7-9-11-14-18-29. Aug 11-14-21-22-26*
 During erection on board vessel -- *Sept. 17-24. Oct. 5-6-8-18-24-28. Nov. 5-6-12-19-24-1913.*
 Total No. of visits *48*

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

Dates of Examination of principal parts—Cylinders *26.6.13* Slides *26.6.13* Covers *26.6.13* Pistons *26.6.13* Rods *26.6.13*
 Connecting rods *26.6.13* Crank shaft *11.8.13* Thrust shaft *29.7.13* Tunnel shafts *29.7.13* Screw shaft *12.9.13* Propellers *7.9.13*
 Stern tube *10.9.13* Steam pipes tested *6.11.13* Engine and boiler seatings *6.10.13* Engines holding down bolts *24.10.13*
 Completion of pumping arrangements *12.11.13* Boilers fixed *24.10.13* Engines tried under steam *24.11.13*
 Main boiler safety valves adjusted *12.11.13* Thickness of adjusting washers *P13. P2. S2. C3. P4. S4. S13. P32. S32*
 Material of Crank shaft *Steel* Identification Mark on Do. *925 RH* Material of Thrust shaft *Steel* Identification Mark on Do. *925 RH*
 Material of Tunnel shafts -- Identification Marks on Do. *925 RH* Material of Screw shafts *Iron* Identification Marks on Do. *925 RH*
 Material of Steam Pipes *Steel* Test pressure *450 lbs*

Is an installation fitted for burning oil fuel *Yes*Is the flash point of the oil to be used over 150°F. *Yes*Have the requirements of Section 49 of the Rules been complied with *Yes*Is this machinery duplicate of a previous case *Yes*If so, state name of vessel *SS Santa Catalina Repal. 2067*

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

This vessel has been fitted to burn liquid fuel on the three main boilers. The Dahl system of mechanical pressure has been installed.

The machinery of this vessel has been constructed & fitted on board under Special Survey. The workmanship is found of good. The machinery has all been tried under steam & found to work well which in my opinion renders the vessel eligible for the record of + LMC 11-13, fitted for liquid fuel in the Register Book.

It is submitted that
 this vessel is eligible for
 THE RECORD, + LMC 11.13

F.D. Ref Mch.

Fitted for oil fuel 11.13. F.P. above 150°F.

The amount of Entry Fee ... *£ 15: 00* When applied for, *25.11.1913*
 Special ... *£ 277: 75*
 Donkey Boiler Fee ... *£ :* When received, *6.12.1913*
 Travelling Expenses (if any) *£ 46: 50*

Committee's Minute

FRI. DEC. 19. 1913

Assigned

*Home 11.13**Fitted for oil fuel 11.13**FP above 150°F*MACHINERY CERTIFICATE
WRITTEN.

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Foundation