

Mdb Rpt No. 11128.

Rpt. 4.

REPORT ON MACHINERY.

No. 28100

Received at London Office

Date of writing Report 21-6-1921 When handed in at Local Office 22-6-1921 Port of SUNDERSLAND. Date, First Survey 3rd Dec. 1919. Last Survey 1st June, 1921.

No. in Survey held at SUNDERSLAND.

Reg. Book.

on the

S.S. CASTILIAN PRINCE "TUNISIANA"

Master

Built at Middlesbrough By whom built Furness S. B. & Co. Ltd (S.S. No. 24) When built 1921

Engines made at

Sunderland

By whom made Richardsons Westgarth & Co. Ltd (No. 2159) when made 1921

Boilers made at

do

By whom made

do

do

do

when made 1921

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

538

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

No. of Cranks

Dia. of Cylinders

26", 43", 43"

Length of Stroke

48"

Revs. per minute

70

Dia. of Screw shaft

as per rule 14.75"

Material of

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

If the liner does not fit tightly at the part

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

Dia. of Tunnel shaft

as per rule 13.06"

Dia. of Crank shaft journals

as per rule 13.7"

Dia. of Crank pin

14.12"

Size of Crank webs

27 1/2 x 9"

Dia. of thrust shaft under

collars

14.1/4"

Dia. of screw

17-9"

Pitch of Screw

18-0"

No. of Blades

4

State whether moveable

No. of Feed pumps

2

Diameter of ditto

4 1/2"

Stroke

27"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4 1/2"

Stroke

27"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

8x5 1/2 x 8; 9x11x10"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

4 @ 3 1/2"

In Holds, &c.

2 @ 3 1/2" in Nos. 1-2+3 holds: 4 @ 3 1/2" in

No. of Bilge Injections

1 size 8"

Connected to condenser, or to circulating pump

C.P.

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

Yes

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

Mdb

How are they protected

Mdb

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

Yes

Is it fitted with a watertight door

Yes

worked from

Upper platform

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

John Spencer & Sons, Ltd

Total Heating Surface of Boilers

8166 sq ft

Forced Draft fitted

Yes

No. and Description of Boilers

3 S.E. Cylindrical Multitubular

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

23-3-21

No. of Certificate

3758

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

64 sq ft

No. and Description of Safety Valves to

each boiler

Two, spring loaded

Area of each valve

Smallest distance between boilers or uptakes and bunkers or woodwork

1'-6"

Mean dia. of boilers

15'-9"

Length

12'-0"

Material of shell plates

Thickness

1/9"

Range of tensile strength

28.3 to 32.3 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

T.R. lap

long. seams

T.R., D.B.S.

Diameter of rivet holes in long. seams

1/9"

Pitch of rivets

8-3"

Lap of plates or width of butt straps

1'-6"

Per centages of strength of longitudinal joint

rivets 85-6

plate 85-35

Working pressure of shell by rules

188.7

Size of manhole in shell

16 1/2 x 13"

Size of compensating ring

7/4 x 8 x 1/9"

No. and Description of Furnaces in each boiler

3 Dighton

Material

S

Outside diameter

4'-13"

Length of plain part

top 1'

Thickness of plates

bottom 3/32"

Description of longitudinal joint

weld

No. of strengthening rings

4

Working pressure of furnace by the rules

215

Combustion chamber plates: Material

S

Thickness: Sides

19"

Back 19"

Top 19"

Bottom 27"

Pitch of stays to ditto: Sides

8 1/4 x 7/16"

Back 8 3/8 x 8"

Top 8 3/4 x 7/16"

Are stays fitted with nuts or riveted heads

Nuts

Working pressure by rules

181.2

Material of stays

S

Area at smallest part

1.73 sq ft

Area supported by each stay

6.7 sq ft

Working pressure by rules

206

End plates in steam space:

Material

S

Thickness

1/5"

Pitch of stays

16 x 19 1/8"

How are stays secured

D.N. & W.

Working pressure by rules

184

Area at smallest part

6.7 sq ft

Area supported by each stay

31.8 sq ft

Working pressure by rules

200

Material of Front plates at bottom

S

Thickness

7/8"

Material of Lower back plate

S

Thickness

13/16"

Greatest pitch of stays

13 1/2 x 8"

Working pressure of plate by rules

185

Diameter of tubes

2 1/2"

Pitch of tubes

3 3/4 x 3 1/16"

Material of tube plates

S

Thickness: Front

15/16"

Back 3/4"

Mean pitch of stays

Pitch across wide water spaces

13 1/2"

Working pressures by rules

185

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

9 x 1 1/2"

Length as per rule

Working pressure by rules

216

Steam dome: description of joint to shell

% of strength of joint

100

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

2019

SUPERHEATER. Type

None

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

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IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded.

SPARE GEAR. State the articles supplied:— Two connecting rod top and bottom end bolts and nuts; two main bearing bolts and nuts; one set of coupling bolts and nuts; one set of feed and bilge pump valves; bolts, nuts, and iron of various sizes; one propeller shaft; one propeller.

The foregoing is a correct description,
FOR RICHARDSONS, WESTGARTH & CO., LTD

Frederic S. Russell

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1919. Decr 3 1920. Jan 8 July 20. Sept 3. Oct 5-22. Nov. 19. 25-26. Decr 8 7-15-17-22-31. 1921. Jan 14-17-27. Feb. 1-5-10-15-17-23-25. Mar. 6
	During erection on board vessel - - -	8-11-17-23-31. Apr. 12-14-16-19-23. May. 4-10-11-20-31. June 1. <i>Feb. 1920</i> Dec. 15-31. 1921. Jan 5-11-17-21-31. Feb. 4-10-16-18-22.
	Total No. of visits	42. + 32.

Is the approved plan of main boiler forwarded herewith No. 3

" " " donkey " " { See "Lancastrian" ~~traces~~
Italiana
Indb " Rpt. No. 11639

*Dates of Examination of principal parts—Cylinders 8-3-21 Slides 8-3-21 Covers 8-3-21 Pistons 23-2-21 Rods 8-12-20
Connecting rods 14-2-21 Crank shaft 26-10-20 Thrust shaft 8-12-20 Tunnel shafts 31-3-21 Screw shaft 5-3-21 Propeller 23-2-21
Stern tube 12-4-21 Steam pipes tested 8-9-20, 24-5-21 Engine and boiler seatings 21.12.20 Engines holding down bolts 20-5-21
Completion of pumping arrangements 23.9.21 Boilers fixed 4-5-21 Engines tried under steam 1-6-21
Completion of fitting sea connections 21.12.20 Stern tube 14-4-21 Screw shaft and propeller 15-4-21*

Main boiler safety valves adjusted 1-6-20 Thickness of adjusting washers P. boiler - $P \frac{3}{8}$, S $\frac{13}{32}$; C. boiler - $P \frac{5}{16}$, S $\frac{13}{32}$; S. boiler - $P \frac{7}{16}$, S $\frac{13}{16}$
Material of Crank shaft *Inf. Steel* Identification Mark on Do. 6203A.B Material of Thrust shaft *Inf. Steel* Identification Mark on Do. 2159 E.W.R.
Material of Tunnel shafts *Inf. Steel* Identification Marks on Do. 5593 N.W.C. Material of Screw shafts *Wt. iron* Identification Marks on Do. 6262 E.W.R.
Material of Steam Pipes *Laps welded steel* Test pressure 540 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, as approved* ✓
Is this machinery duplicate of a previous case *Yes* ✓ If so, state name of vessel *S. S. "Lancastrian Prince," (Old report N° 28066)*

General Remarks (State quality of workmanship, opinions as to class, &c.) The Machinery has been built and installed under special survey. The Materials and Workmanship are good. The Vessel has returned to the Builders' yard for Completion. To complete the survey, the Hold and Tunnel Pumping Connections, the Electric light installation, and the deck controls for discharge valves on settling tanks to be examined (Middlesboro' Surveyors advised).

Upon completion of survey this vessel's Machinery is eligible in my opinion for Classification, and the record * L M C with date

The survey on the machinery is now complete with the exception that the Electric Light installation requires to be examined under full working conditions.

The machinery of this vessel is eligible in my opinion to have the notation of
 ⚡ LMC-10-21 subject to the Electric Light being examined under full working conditions.
 It is stated this will be done before the vessel leaves this port, in the meantime she is
 laid up.

This room is fitted with Electric Light and Wireless

The amount of Entry Fee	...	£	6	:	7	When applied for,
Special	...	£	101	:	18	23/6/1921
Donkey Boiler Fee	...	£	:	:	:	When received,
Travelling Expenses (if any)	£	:	:	:	27	19.2

Ed. W. Hutter. & W^m Morrison
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Typed
MACHINERY CERT,
WRITTEN

FRI. OCT. 28 1921 ✓

+ Linc. 10.
Tilled for oil fuel 10.31
RY CERT. J.P. above 150

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Foundation

UNDERLAND.

Certificate (if required) to be sent to _____

The Surveyors are requested not to write on or below the space for Committee's Minute.