

REPORT ON MACHINERY.

No. 44663
27 MAY 1925

Received at London Office

Date of writing Report 11-5-25 When handed in at Local Office 14/5/25 Port of Glasgow

No. in Survey held at Renfrew Date, First Survey 18-8-24 Last Survey 11th May 1925

Reg. Book on the Twin screw cable steamer "Patrick Stewart" (Number of Visits 35)

Master Built at Renfrew By whom built W^m Simons & Co^s Ltd. Tons { Gross 1553 Net 723

Engines made at Renfrew By whom made W^m Simons & Co^s Ltd. when made 1925

Boilers made at Renfrew By whom made W^m Simons & Co^s Ltd. when made 1925

Registered Horse Power Owners High Commissioner for India Port belonging to London.

Nom. Horse Power as per Section 28 213 211. Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Description of Engines Twin Screw Triple No. of Cylinders 6 No. of Cranks 6

Dia. of Cylinders 12"-19"-33" Length of Stroke 30 Revs. per minute 128 Dia. of Screw shaft as per rule 7.41 as fitted 7.16 Material of screw shaft 8

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight in the propeller boss

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 30" no O.S.

Dia. of Tunnel shaft as per rule 6.619" as fitted 6.588" Dia. of Crank shaft journals as per rule 6.95" as fitted 7" Dia. of Crank pin 7" Size of Crank webs 13x4 1/2" Dia. of thrust shaft under collars 7 1/2" Dia. of screw 9'-6" Pitch of Screw 10'-6" No. of Blades 3 State whether moveable Total surface 30 sq

No. of Feed pumps none Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps none Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Donkey Engines 1-3 Ball Sizes of Pumps 7" x 7 1/2" x 9" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2-2 1/4, 2-2" In Holds, &c. N^os 1-2-3, each 2-2 1/4", Tunnel 2-2 1/2"

No. of Bilge Injections 2 sizes 5" Connected to condenser to circulating pump Is a separate Donkey Suction fitted in Engine room & size 3 1/2"

Are all the bilge suction pipes fitted with roses Are the ~~roses~~ in Engine room always accessible Are the stoves on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line below

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the (bunkers Oil) Bilge & Ballast How are they protected not protected

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

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

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel D. Colville & Sons Ltd.

Total Heating Surface of Boilers 3500 sq Is Forced Draft fitted No. and Description of Boilers 2- multitubular

Working Pressure 180 Tested by hydraulic pressure to 320 Date of test 17-10-24 No. of Certificate 16635

Can each boiler be worked separately Area of fire grate in each boiler Oil fuel No. and Description of Safety Valves to each boiler 2- spring loaded Area of each valve 7.068 sq Pressure to which they are adjusted 185 Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Well clear from dia. of boilers 12'-9" Length 10'-9" Material of shell plates S

Thickness 1 1/16 Range of tensile strength 28-32 Are the shell plates welded or flanged Descrip. of riveting: cir. seams I.R.

long. seams T.R.A.B.S. Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 8" Gap of plates or width of butt straps 16 3/4"

Per centages of strength of longitudinal joint rivets 90.05 Working pressure of shell by rules 183 Size of manhole in shell 16" x 12"

Size of compensating ring 30" x 37 1/2" x 1 1/8 No. and Description of Furnaces in each boiler 2- iron Material S Outside diameter 45 3/4"

Length of plain part top bottom Thickness of plates crown 5/8 Description of longitudinal joint wild No. of strengthening rings none

Working pressure of furnace by the rules 199 Combustion chamber plates: Material S Thickness: Sides 23/32 Back 1/64 Top 23/32 Bottom 13/16

Pitch of stays to ditto: Sides 9" x 9" Back 9 1/2" x 6 3/4" Top 9" x 9 7/8" If stays are fitted with nuts or riveted heads Working pressure by rules 200

Material of stays S Area at smallest part 2.03 sq Area supported by each stay 88 sq Working pressure by rules 206 End plates in steam space:

Material S Thickness 1 5/16 Pitch of stays 17 1/2" x 17" How are stays secured I.N. Working pressure by rules 181 Material of stays S

Area at smallest part 5.05 sq Area supported by each stay 297 sq Working pressure by rules 185 Material of Front plates at bottom S

Thickness 1 5/16 Material of Lower back plate S Thickness 31/32 Greatest pitch of stays 14 3/4" Working pressure of plate by rules 184

Diameter of tubes 2 3/4 Pitch of tubes 3 15/16 x 3 7/8 Material of tube plates S Thickness: Front 15/16 Back 3/4 Mean pitch of stays 11 1/6 x 7 3/4"

Pitch across wide water spaces 13 1/2" Working pressures by rules 211 Girders to Chamber tops: Material S Depth and

thickness of girder at centre 8 1/2" x 1 3/8 Length as per rule 32" Distance apart 9" Number and pitch of stays in each 2- 9 7/8" x 9"

Working pressure by rules 184 Steam dome: description of joint to shell % of strength of joint

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

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

SUPERHEATER. Type 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

IS A DONKEY BOILER FITTED? *no* ✓

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied: — *As per Rule requirements and in addition two propellers, one screw shaft, one section crank shaft etc.*

The foregoing is a correct description,
FOR WM. SIMONS & CO., LTD.

W. Simons
SECRETARY

Manufacturer.

Dates of Survey while building
During progress of work in shops -- *1924 Aug 18 Sept 4-10-18-24 Oct 3-6-9-14-17-22 Nov 6-13-28 Dec 2-9-22*
During erection on board vessel --- *1925 July 9-15-22-26 Feb 2-4-6-10-13-24-25 Mar 4-10-16-20-25 May 11*
Total No. of visits *35*

Is the approved plan of main boiler forwarded herewith *no*
" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders *14-10-24* Slides *14-10-24* Covers *14-10-24* Pistons *14-10-24* Rods *8-10-24*
Connecting rods *3-10-24* Crank shaft *12-9-24* Thrust shaft *6-10-24* Tunnel shafts *24-7-24* Screw shaft *22-12-24* Propeller *9-1-25*
Stern tube *14-10-24* Steam pipes tested *22-1-25* Engine and boiler seatings *12-12-24* Engines holding down bolts *26-1-25*
Completion of pumping arrangements *20-3-25* Boilers fixed *22-12-24* Engines tried under steam *20-3-25*
Completion of fitting sea connections *22-12-24* Stern tube *22-12-24* Screw shaft and propeller *10-2-25*
Main boiler safety valves adjusted *16-3-25* Thickness of adjusting washers *P.B.L.R. P 7/16 S 15/32, S.B.L.R. P 15/32 S 15/32*
Material of Crank shaft *S* Identification Mark on Do. *368-421* Material of Thrust shaft *S* Identification Mark on Do. *1093, 1094*
Material of Tunnel shafts *S* Identification Marks on Do. *1020-1-3* Material of Screw shafts *S* Identification Marks on Do. *1009, 1012A*
Material of Steam Pipes *S* ✓ Test pressure *540 lbs* ✓ *Spare 1012.*

Is an installation fitted for burning oil fuel *no* ✓ Is the flash point of the oil to be used over 150°F. *no* ✓
Have the requirements of Section 49 of the Rules been complied with *no* ✓
Is this machinery duplicate of a previous case *no* ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery and boilers of this vessel have been built under special survey in accordance with the approved plans, and the Society's Rules and requirements, the materials and workmanship are good. The machinery and boilers have been securely fitted on board, and satisfactorily tried under steam, and in my opinion is eligible for the record + L. M. C. 5-25, and notation fitted for oil fuel 5-25 F. P. above 150°F.*

It is submitted that this vessel is eligible for THE RECORD + LMC 5. 25. FD. CL. Fitted for oil fuel 5. 25. F.P. above 150°F.

J. W. D.
CERTIFICATE WRITTEN 12-6-25
28/5/25

The amount of Entry Fee ... £ *4* : : When applied for, *22/5/25*
Special ... £ *53.5* : :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When received, *25/5/25*

Jas. Cairns
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 26 MAY 1925*
Assigned *+ LMC 5.25* *FD*

Fitted for oil fuel 5.25 F.P. above 150°F.



Glasgow
14/5/25

Certificate (if required) to be sent to

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