

REPORT ON MACHINERY.

No. 32429

Date of writing Report 28/1/21 When handed in at Local Office 28/1/21 Port of Hull Received at London office THU. 3 FEB. 1921
 No. in Survey held at Hull Date, First Survey 25/5/20 Last Survey 15/1/1921
 Reg. Book. on the S. S. "EDERN" (Number of Visits 43)

Master Selby Built at Selby By whom built Lockhart & Co. Ltd. Tons } Gross 466
 Engines made at Hull By whom made Wm. & A. Holmes & Co. Ltd. Net 192 When built 1921
 Boilers made at Hull By whom made do when made 1921
 Registered Horse Power 85 Owners Manchester Liverpool & W. Wain S. S. Co. Ltd. Port belonging to Liverpool
 Nom. Horse Power as per Section 28 85 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple expansion. No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 13-23-37 Length of Stroke 24 Revs. per minute 112 Dia. of Screw shaft 7 1/2 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 Yes 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 32
 Dia. of Tunnel shaft 6.51 Dia. of Crank shaft journals 5.94 Dia. of Crank pin 7 1/2 Size of Crank webs 4x18 Dia. of thrust shaft under }
 collars 7 1/2 Dia. of screw 9-9 Pitch of Screw 10-1 1/2 No. of Blades 4 State whether moveable No Total surface 33 1/2
 No. of Feed pumps one Diameter of ditto 3 Stroke 14 1/2 Can one be overhauled while the other is at work —
 No. of Bilge pumps one Diameter of ditto 3 Stroke 14 1/2 Can one be overhauled while the other is at work —
 No. of Donkey Engines one Sizes of Pumps 8 x 4 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps }
 In Engine Room 3 @ 2 1/2 In Holds, &c. 2 @ 2 1/2

No. of Bilge Injections one sizes 3 1/2 Connected to condenser, or to circulating pump — Is a separate Donkey Suction fitted in Engine room & size 2 1/2 gallon
 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 Yes
 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 Hold suction How are they protected Flap casing
 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 J. Francis & Sons.
 Total Heating Surface of Boilers 14,700 Is Forced Draft fitted No No. and Description of Boilers one cyl. m. th. S.E.
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 30/1/20 No. of Certificate 3464
 Can each boiler be worked separately — Area of fire grate in each boiler 46.2 No. and Description of Safety Valves to }
 each boiler one double spring Area of each valve 4.908 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork — Mean dia. of boilers 13-6 Length 10-3 Material of shell plates Steel
 Thickness 1 1/2 Range of tensile strength 28/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR.
 long. seams TRBS. Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 7 1/2 Lap of plates or width of butt straps 1 1/2
 Per centages of strength of longitudinal joint rivets 81.18% Working pressure of shell by rules 185 lbs Size of manhole in shell 18 x 12
 plate 85.24% No. and Description of Furnaces in each boiler 3 Plain Material Steel Outside diameter 3-4
 Size of compensating ring 7 x 1 1/2 Length of plain part 3-6 1/2 Thickness of plates crown 3 1/2 Description of longitudinal joint Welded. No. of strengthening rings —
 bottom 3 1/2 Working pressure of furnace by the rules 185 lbs Combustion chamber plates: Material Steel Thickness: Sides 3 1/2 Back 3 1/2 Top 3 1/2 Bottom 3 1/2
 Pitch of stays to ditto: Sides 9 1/2 x 10 Back 9 1/2 x 8 1/2 Top 9 1/2 x 10 If stays are fitted with nuts or riveted heads — Working pressure by rules 187 lbs
 Material of stays Steel Area at smallest part 2.07 Area supported by each stay 95 sq in. Working pressure by rules 190 lbs End plates in steam space: }
 Material Steel Thickness 1 1/2 Pitch of stays 8 x 18 How are stays secured DR & W Working pressure by rules 185 lbs Material of stays Steel
 Area at smallest part 5.79 Area supported by each stay 324 Working pressure by rules 186 lbs Material of Front plates at bottom Steel
 Thickness 1 1/2 Material of Lower back plate Steel Thickness 3 1/2 Greatest pitch of stays 15 x 9 1/2 Working pressure of plate by rules 182
 Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 1 1/2 Back 7/8 Mean pitch of stays 10.6
 Pitch across wide water spaces 15 Working pressures by rules 181 lbs Girders to Chamber tops: Material Steel Depth and }
 thickness of girder at centre 10 1/2 x 1 1/2 Length as per rule 2-8 1/2 Distance apart 9 1/2 Number and pitch of stays in each 2 @ 10
 Working pressure by rules 268 lbs 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 — 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:— *Two top end, two bottom end two main bearing & one set coupling bolts & nuts, one set air feed, & bilge pump valves, one main & one donkey check valve & seat, two donkey pump valves, & pump ring studs & nuts one safety valve spring, & quantities of assorted bolts & nuts & iron of various sizes.*

The foregoing is a correct description,
FOR CHARLES D. HOLMES & Co. LTD.

J. D. Cooper

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1920. May 23. June 22. 24. July 20. 22. 26. Aug 9. 11. 19. 24. 30. Sept 10. 15. 17. 20. 24. Oct 2
{ During erection on board vessel --- } 27. 28. 29. 30. Nov. 2. 8. 19. 23. 29. 30. Dec 6. 8. 10. 13. 14. 16. 20. 21. 27. Jan 5. 7. 10. 24. 28.
Total No. of visits *43.*

Is the approved plan of main boiler forwarded herewith *Yes* *with 201269*
" " " donkey " " *SS. PICKMERE.*

Dates of Examination of principal parts—Cylinders *10/12/20* Slides *5/1/21* Covers *10/12/20* Pistons *13/12/20* Rods *23/11/20*
Connecting rods *14/12/20* Crank shaft *29/11/20* Thrust shaft *29/11/20* Tunnel shafts *—* Screw shaft *25/7/20* Propeller *25/7/20*
Stern tube *26/7/20* Steam pipes tested *24/1/21* Engine and boiler seatings *8/1/21* Engines holding down bolts *19/1/21*
Completion of pumping arrangements *25/1/21* Boilers fixed *25/1/21* Engines tried under steam *25/1/21*
Completion of fitting sea connections *18/8/20* Stern tube *18/8/20* Screw shaft and propeller *18/8/20*
Main boiler safety valves adjusted *25/1/21* Thickness of adjusting washers *P 3/8" S 3/8"*
Material of Crank shaft *Steel* Identification Mark on Do. *2523* Material of Thrust shaft *Steel* Identification Mark on Do. *2524*
Material of Tunnel shafts *—* Identification Marks on Do. *—* Material of Screw shafts *Steel* Identification Marks on Do. *2485*
Material of Steam Pipes *Steel* Test pressure *400 lbs*

Is an installation fitted for burning oil fuel *No* 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. "PICKMERE."*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boiler of this vessel have been built under special survey & the materials & workmanship are good.*

On completion the machinery was tried under full working conditions while moored to the buoy well with satisfactory results.

The machinery throughout is now in a good & efficient condition & eligible in my opinion to have the record of LMC-1-21 marked in Red in the Society's Register Book.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC. 1-21.

Reed
4/2/21

APR

The amount of Entry Fee ... £ *2-0-0* When applied for, *22* 19*21*
Special ... £ *21-5-0*
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : When received, *23* 19*21*

J. D. Cooper
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE FEB 1921*
Assigned *+ L.M.C. 1.21*



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

CERTIFICATE WRITTEN