

REPORT ON MACHINERY.

No. 28684

Received at London Office FRI. NOV. 23 1923

SUNDERLAND.

Date of writing Report

19

When handed in at Local Office

14th Nov 1923

Port of

No. in Survey held at
Reg. Book.

SUNDERLAND.

Date, First Survey 15th Jan

Last Survey 13th Nov 1923

(Number of Visits 42)

on the SS. "FERNWOOD"

Tons

Gross 1892

Net 1090

When built 1923

Master

Built at Sunderland

By whom built Sir James Laing & Sons Ltd

Engines made at

Sunderland

By whom made

Messrs George Clark & Co Ltd

when made 1923

Boilers made at

Sunderland

By whom made

Messrs George Clark & Co Ltd

when made 1923

Registered Horse Power

Owners

W. France Fenwick & Co. Ltd

Port belonging to

London

Nom. Horse Power as per Section 28

1991

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

YES

ENGINES, &c.—Description of Engines

Triple

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 20½, 33, 54

Length of Stroke 39

Revs. per minute 65

Dia. of Screw shaft as per rule 12.18

Material of 81st

Is the screw shaft fitted with a continuous liner the whole length of the stern tube NO LINER

in the propeller boss YES If the liner is in more than one length are the joints burned

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

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

Dia. of Tunnel shaft as per rule 10.31

Dia. of Crank shaft journals as per rule 10.83

Dia. of Crank pin 10½

Size of Crank webs 16x6½

Dia. of thrust shaft under collars 10½

Dia. of screw 14.3

Pitch of Screw 14-9

No. of Blades 4

State whether moveable No

Total surface 63.5 9

No. of Feed pumps 2

Diameter of ditto 2½

Stroke 24

Can one be overhauled while the other is at work YES

No. of Bilge pumps 2

Diameter of ditto 2½

Stroke 24

Can one be overhauled while the other is at work YES

No. of Donkey Engines 3

Sizes of Pumps 9x10x10, 6x4x6, 6x7½x6

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

In Engine Room 2 @ 2½"

In Holds, &c. 2 in each hold 3" 1 in after hold 3"

No. of Bilge Injections 1 sizes 5½

Connected to condenser to circulating pump YES

Is a separate Donkey Suction fitted in Engine room & size YES 3½

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

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 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 NONE

How are they protected

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 5)

Manufacturers of Steel

Port Talbot Steel Co

Total Heating Surface of Boilers 3096

Is Forced Draft fitted No

No. and Description of Boilers Two Single Ended 2SB

Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs

Date of test 4.7.23

No. of Certificate 3846

Can each boiler be worked separately YES

Area of fire grate in each boiler 47

No. and Description of Safety Valves to each boiler Two Spring valves

Area of each valve 5.94

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 20"

Mean dia. of boilers 13-0"

Length 10-6"

Material of shell plates 5

Thickness 1½"

Range of tensile strength 28-32

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams laps etc

long. seams d 1½ to riv Diameter of rivet holes in long. seams 1½"

Pitch of rivets 7½"

Lap of plates or width of butt straps 16½"

Per centages of strength of longitudinal joint rivets 90.3

plate 85.8

Working pressure of shell by rules 182

Size of manhole in shell 12x16

Size of compensating ring Flanged

No. and Description of Furnaces in each boiler 3 Drignon

Material 5

Outside diameter 3-4"

Length of plain part top

Thickness of plates crown 3½"

Description of longitudinal joint welded

No. of strengthening rings

Working pressure of furnace by the rules 194

Combustion chamber plates: Material 5

Thickness: Sides 23/32

Back 11/16

Top 23/32

Bottom 23/32

Pitch of stays to ditto: Sides 10x9½

Back 10x9

Top 10½x9½

stays are fitted with nuts or riveted heads nuts

Working pressure by rules 180

Material of stays 5

Area at smallest part 2.03

Area supported by each stay 99½

Working pressure by rules 183

End plates in steam space:

Material 5

Thickness 1½"

Pitch of stays 17x19

How are stays secured d.x.l.w.

Working pressure by rules 181

Material of stays 5

Area at smallest part 5.41

Area supported by each stay 323

Working pressure by rules 184

Material of Front plates at bottom 5

Thickness 13/16"

Material of Lower back plate 5

Thickness 7/8"

Greatest pitch of stays 15½"

Working pressure of plate by rules 200

Diameter of tubes 3½"

Pitch of tubes 4½x4½"

Material of tube plates 5

Thickness: Front 13/16"

Back 3/4"

Mean pitch of stays 10½"

Pitch across wide water spaces 14½"

Working pressures by rules 185

Girders to Chamber tops: Material 5

Depth and thickness of girder at centre 8½x1½"

Length as per rule 32"

Distance apart 10½"

Number and pitch of stays in each 2, 9½"

Working pressure by rules 181

Steam dome: description of joint to shell NONE

% 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 NONE

Date of Approval of Plan

Tested by Hydraulic Pressure

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

1810-18M

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ✓

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

The foregoing is a correct description,
FOR GEORGE CLARK LIMITED

W. S. Spence

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1923. Jan. 15. 23. 26. Feb. 9. 13. 19. Mar. 7. 9. 12. 21. 27. Apr. 9. 10. 12. 13. 18. 20. 24. 26. 29. May. 7. 15. 17. 23. 24. 28. 29. 30.
During erection on board vessel - - - June 4. 7. 11. 14. 19. July. 3. 4. Aug. 28. Sep. 18. Oct. 29. 31. Nov. 2. 6. 13.
Total No. of visits 42

Is the approved plan of main boiler forwarded herewith YES

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 30.4.23 Slides 30.4.23 Covers 20.4.23 Pistons 15.5.23 Rods 15.5.23

Connecting rods 30.4.23 Crank shaft 9.4.23 Thrust shaft 15.5.23 Tunnel shafts 7.5.23 Screw shaft 24.5.23 Propeller 7.5.23

Stern tube 28.8.23 Steam pipes tested 31.10.23 Engine and boiler seatings 29.10.23 Engines holding down bolts 2.11.23

Completion of pumping arrangements 2.11.23 Boilers fixed 2.11.23 Engines tried under steam 6.11.23

Completion of fitting sea connections 18.9.23 Stern tube 18.9.23 Screw shaft and propeller 29.10.23

Main boiler safety valves adjusted 6.11.23 Thickness of adjusting washers PORT B: P 9/16 S 1/2 STAR B: P 7/16 S 3/4

Material of Crank shaft Steel Identification Mark on Do. 1128 GAH Material of Thrust shaft Steel Identification Mark on Do. 1128 GAH

Material of Tunnel shafts Steel Identification Marks on Do. 1128 GAH Material of Screw shafts Steel Identification Marks on Do. 1128 GAH

Material of Steam Pipes Copper Test pressure 360 lbs sq. in. ✓

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 No If so, state name of vessel ✓

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

The machinery of this vessel has been constructed under special survey, the materials and workmanship are sound and good and under the vessel eligible in my opinion to have record of T.L.M.C. 11.23

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 11.23 O.G.

C. S. 23/11/23.

The amount of Entry Fee ... £ 3 : : When applied for,
Special ... £ 49 : 15 : 14 NOV 1923
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 20 NOV 1923

W. A. Anker
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 27 NOV 1923

Assigned + L.M.C. 11.23

O. G.



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Foundation