

TUE. MAY. 15 1923

pt. 4.

REPORT ON MACHINERY

No. 42617

THU. APR. 5 1923

Received at London Office

Date of writing Report 30.3.1923 When handed in at Local Office

10 Port of Glasgow

Survey held at Glasgow

Date, First Survey 12.2.1920 Last Survey 30.3.1923

Reg. Book.

on the

Tons { Gross
Net

Master

Built at Middlesbrough By whom built Furness S. B. C. & N. 40 When built

Engines made at Glasgow

By whom made Ross & Duncan N° 1090 when made 1922.3

Boilers made at do

By whom made do N° 1621-2 when made 1923.3.

Registered Horse Power

Owners

Port belonging to

nom. Horse Power as per Section 28 156

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.—Description of Engines Triple expansion

No. of Cylinders 3 No. of Cranks 3

No. of Cylinders 17.27 1/2 46 Length of Stroke 33 Revs. per minute

Dia. of Screw shaft 9.82 as per rule 9.82 as fitted 10 3/16 Material of screw shaft 8

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

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

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

Length of stern bush 40 1/2

No. of Tunnel shaft 8.62 as per rule 8.62 as fitted 8 3/4

Dia. of Crank shaft journals 9.05 as per rule 9.05 as fitted 9 1/8

Dia. of Crank pin 9 1/2

Size of Crank webs 7 1/2 x 6 Dia. of thrust shaft under

bars 9 1/2

Dia. of screw 12.8

Pitch of Screw 12.6

No. of Blades 4

State whether moveable 20 Total surface 504

No. of Feed pumps 2

Diameter of ditto 2 3/4

Stroke 16 1/2

Can one be overhauled while the other is at work

No. of Bilge pumps 2

Diameter of ditto 3

Stroke 16 1/2

Can one be overhauled while the other is at work

No. of Donkey Engines 2

Sizes of Pumps 6 x 4 1/4 x 6 duplex

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

Engine Room

In Holds, &c.

No. of Bilge Injections

sizes

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size

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

Are all connections with the sea direct on the skin of the ship

Are they Valves or Cocks

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

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

How are they 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

BOILERS, &c.—(Letter for record 8)

Manufacturers of Steel

Edwin

Total Heating Surface of Boilers 2806 Is Forced Draft fitted

No. and Description of Boilers Two, multitubular

Working Pressure 180 lb

Tested by hydraulic pressure to 320 lb

Date of test 2.3.23

No. of Certificate 16198

Can each boiler be worked separately

Yes

Area of fire grate in each boiler 39.6

No. and Description of Safety Valves to

Is each boiler fitted with a Spring

Area of each valve 4.9

Pressure to which they are adjusted 185 lb

Are they fitted with easing gear

Is the least distance between boilers or uptakes and bunkers or woodwork

1.9

Mean dia. of boilers 12.0 Length 10.6 Material of shell plates 8

Thickness 1

Range of tensile strength 28-32

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

g. seams T.R.D.B.S.

Diameter of rivet holes in long. seams 1 1/8

Pitch of rivets 7

Gap of plates on width of butt straps 1.5 3/4

Percentages of strength of longitudinal joint

rivets 84.5

Working pressure of shell by rules 180

Size of manhole in shell 16 x 12

Is there a compensating ring 30 1/2 x 26 1/2

No. and Description of Furnaces in each boiler 2. Two

Material 8 Outside diameter 3.7 1/8

Length of plain part

top

bottom

Thickness of plates

9 1/16

Description of longitudinal joint

weld

No. of strengthening rings

Working pressure of furnace by the rules 204

Combustion chamber plates: Material 8

Thickness: Sides 1/16

Back 3/8

Top 1/16 Bottom 1/16

Pitch of stays to ditto: Sides 9 1/2 x 9

Back 8 1/2 x 8

Top 9 1/2 x 9

If stays are fitted with nuts or riveted heads

Working pressure by rules 187

Material of stays 8

Area at smallest part 2.07

Area supported by each stay 85.5

Working pressure by rules 195

End plates in steam space:

Material 8

Thickness 1 1/2

Pitch of stays 17 x 16

How are stays secured

7. nuts

Working pressure by rules 185

Material of stays 8

Area at smallest part 5.18

Area supported by each stay 272

Working pressure by rules 198

Material of Front plates at bottom 8

Thickness 2 3/32

Material of Lower back plate 8

Thickness 2 3/32

Greatest pitch of stays 14 x 8 1/2

Working pressure of plate by rules 183

Diameter of tubes 3 1/4

Pitch of tubes 4 1/2 x 4 1/4

Material of tube plates 8

Thickness: Front 2 7/32

Back 3/4

Mean pitch of stays 10

Pitch across wide water spaces 14

Working pressures by rules 242

Girders to Chamber tops: Material 8

Depth and

Thickness of girder at centre 7 1/4 x 1 3/4

Length as per rule 30 5/8

Distance apart 9

Number and pitch of stays in each 2-9 1/2

% of strength of joint

Working pressure by rules 194

Steam dome: description of joint to shell

Home

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 Water

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

Pressure to which each is adjusted

Is Easing Gear fitted

Diameter of Safety Valve

W646-0200

Lloyd's Register Foundation

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Ross & Duncan

Manufacturer.

Dates of Survey while building { During progress of work in shops - 1920 Feb 12-23 Mar 9 Apr 14-20 May 3-13 19-24 31 Jun 4-14 19-21 Jul 7-13 Sept 1-17 24-25 29 Oct 4-11 13 19-29 Nov 3-8 15-23
During erection on board vessel - 30 Dec 13-27 1921 Jan 12-21 26 Feb 5-8 14-22 Mar 5-9 15-18 22-29 Apr 5-38 May 10-11 18 Aug 11 Sep 13-23 29 Oct 19 Nov 20
Total No. of visits 86
Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts—Cylinders 21-1-21 Slides 2-2-21 Covers 5-11-20 Pistons 8-11-20 Rods 24-1-23
Connecting rods 25-11-20 Crank shaft 21-1-21 Thrust shaft 2-2-21 Tunnel shafts 24-1-21 Screw shaft 26-3-23 Propeller 24-1-23
Stern tube 30-3-23 Steam pipes tested Engine and boiler seatings Engines holding down bolts
Completion of pumping arrangements Boilers fixed Engines tried under steam
Completion of fitting sea connections Stern tube Screw shaft and propeller
Main boiler safety valves adjusted Thickness of adjusting washers
Material of Crank shaft S Identification Mark on Do. J.E.S. Material of Thrust shaft S Identification Mark on Do. J.E.S.
Material of Tunnel shafts S Identification Marks on Do. J.S.C. Material of Screw shafts S Identification Marks on Do. J.S.C.
Material of Steam Pipes Test pressure

Is an installation fitted for burning oil fuel

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

If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines and Boilers have been built under Special Survey, in accordance with the Rules and approved plans, the materials & workmanship are good.

The engines and boilers are being shipped to Middlesbrough where they will be fitted on board.

The machinery will be eligible in my opinion to be classed + L.R.C. (with date) when satisfactorily fitted on board & tried under steam.

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for,
Special 4/5 ... £ 31 : 4 : 0 4-4-1923
Donkey Boiler Fee ... £ : : : When received,
Travelling Expenses (if any) £ : : : 4-4-1923

Committee's Minute

GLASGOW

4 APR 1923

Assigned Deferred.

Jas Cairns

Engineer Surveyor to Lloyd's Register of Shipping.

WED 27 MAY 1923



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