

REPORT ON MACHINERY.

No. 73667

FRI OCT. 15 1920

Received at London Office

of writing Report 15th Oct 1920 When handed in at Local Office 13th Oct 1920 Port of Newcastle on Tyne

in Survey held at Jarrow on Tyne Date, First Survey 5 March 1919 Last Survey 11th Oct 1920

Book. Steel J. S. Maimoa (Palmer & 873) (Number of Vials 123) Tons Gross 8011 Net 5000

ster Green Built at Jarrow By whom built Palmer Shipbuilding & Iron Co When built 1920

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istered Horse Power None Owners Shan Saville & Albion Co Port belonging to Southampton

Horse Power as per Section 28 1039 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes

INES, &c.—Description of Engines Twin Screw Quadruple No. of Cylinders four to 8 No. of Cranks 8

of Cylinders 23, 33, 47, 2, 68 Length of Stroke 48 Revs. per minute 83 Dia. of Screw shaft as per rule 11 1/4" Material of steel

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

the propeller boss yes If the liner is in more than one length are the joints burned ✓ If the liner does not fit tightly at the part

een the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓ If two

s are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 5-1"

of Tunnel shaft as per rule 12 7/8" Dia. of Crank shaft journals as per rule 10 1/2" Dia. of Crank pin 14 1/4" Size of Crank webs 20 x 9 1/2" Dia. of thrust shaft under

ra 14 1/4" Dia. of screw 17-0" Pitch of Screw 15-0" No. of Blades 4 State whether moveable yes Total surface 85 sq ft each

of Feed pumps one to each Diameter of ditto 5 1/2" Stroke 24" Can one be overhauled while the other is at work yes

of Bilge pumps do Diameter of ditto 5 1/2" Stroke 24" Can one be overhauled while the other is at work yes

of Donkey Engines Three Sizes of Pumps 10, 12, 12 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 4 boiler rooms, 2 port, 2 star, 3 1/2" In Holds, &c. Yes 3 1/2" diam in Nos 1, 2, 3

and 5 holds and one 3" in tunnel well

Bilge Injections 2 sizes 10" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 3 1/2"

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 ✓

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

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 Main discharge

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

pipes are carried through the bunkers Bilge to forward holds How are they protected Wood boxing

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

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

Screw Shaft Tunnel water tight yes Is it fitted with a watertight door yes worked from Top engine room platform

ERS, &c.—(Letter for record 5) Manufacturers of Steel J. Spencer & Son Ltd

Heating Surface of Boilers 15206 Is Forced Draft fitted yes No. and Description of Boilers 2 Single & 2 double ended

ing Pressure 220 lb Tested by hydraulic pressure to 440 lb Date of test 12/3/20 No. of Certificate (1) 9369

ch boiler be worked separately yes Area of fire grate in each boiler DE 111.4, SE 65.14 No. and Description of Safety Valves to

iler 2 direct spring Area of each valve SE 5.93 Pressure to which they are adjusted 225 lb Are they fitted with easing gear yes

t distance between boilers or uptakes and bunkers or woodwork 18" inside Mean dia. of boilers 14 7 1/2" Length DE 21-6" Material of shell plates Steel

ess 1 3/8" Range of tensile strength 29/33 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DE double and

rams 5 rivets Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9 3/4" Lap of plates or width of butt straps 21 1/8"

stages of strength of longitudinal joint 90-2 Working pressure of shell by rules 221 lb Size of manhole in shell 16" x 12"

compensating ring flanged plate No. and Description of Furnaces in each boiler DE 61, SE 31, Morrison Material Steel Outside diameter 43 1/2"

of plain part top Thickness of plates 1 1/8" Description of longitudinal joint Welded No. of strengthening rings ✓

ing pressure of furnace by the rules 231 Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 1 1/4"

of stays to ditto: Sides 9 1/2" x 8 1/8" Back 10 x 7 1/8" Top SE 9 1/2" x 7 1/8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 222

ial of stays Steel Area at smallest part 2.360" Area supported by each stay 75 P" Working pressure by rules 267 End plates in steam space:

ial Steel Thickness 1 5/8" Pitch of stays 15 3/4" x 1 1/4" How are stays secured Double nuts Working pressure by rules 222 lb Material of stays Steel

at smallest part 7.240" Area supported by each stay 277 P" Working pressure by rules 272 Material of Front plates at bottom Steel

ess 1 1/16" Material of Lower back plate Steel Thickness DE 1 1/16" Greatest pitch of stays SE 15 7/8" Working pressure of plate by rules 210

ter of tubes 2 1/2" Pitch of tubes 3 3/4" Material of tube plates Steel Thickness: Front SE 1 1/16" Back SE 3/4" Mean pitch of stays 9 3/8"

agross wide water spaces 13 3/4" Working pressures by rules 229 lb Girders to Chamber tops: Material Steel Depth and

ess of girder of centre SE 10 3/8" x 1 1/8" Length as per rule SE 36 3/2" Distance apart 9 1/2" Number and pitch of stays in each SE four 7 1/4"

ing pressure by rules 248 Steam dome: description of joint to shell None % of strength of joint ✓

ter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓

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

RHEATER. 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 ✓

W54-0129

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

As required by the rules and one propeller shaft
2 prop^r blades and nuts & studs for one blade, escape valve springs for each cylinder
of one engine, one HP piston complete one set piston rings of each size fitted, one
rod & nut, one pair crank pin brasses, one pair top end bushes, 2 valve spindle
one ahead & one astern eccentric sheave & strap, one air pump bucket & rod, one
valve seat with valves & guards one feed and one bilge pump plunger & escape
springs, one set suction & discharge valves for each auxiliary pump, Impeller
shaft for centrifugal pump etc.

The foregoing is a correct description,

Palmer's Shipbuilding & Iron Co., Ltd.

J. Kemp.

Manufacturer.

General Manager, Engine Works.

Dates of Survey while building
During progress of work in shops - - -
During erection on board vessel - - -
Total No. of visits 123

Dates of Examination of principal parts—Cylinders 17/3/20 Slides 17/3/20 Covers 29/9/19 Pistons 17/3/20 Rods 29/9/19

Connecting rods 17/3/20 Crank shaft 23/3/20 Thrust shaft 17/3/20 Tunnel shafts 17/3/20 Screw shaft 15/3/20 Propeller 15/3/20

Stern tube 16/3/20 Steam pipes tested 15/3/20 Engine and boiler seatings 5/3/20 Engines holding down bolts 10/6/20

Completion of pumping arrangements 11/4/20 Boilers fixed 2/9/20 Engines tried under steam 2/9/20

Completion of fitting sea connections 9/3/20 Stern tube 9/3/20 Screw shaft and propeller 9/3/20

Main boiler safety valves adjusted 2/9/20 Thickness of adjusting washers 2/9/20

Material of Crank shaft L M Steel Identification Mark on Do. 24/1/20 Material of Thrust shaft L steel Identification Mark on Do. 24/1/20

Material of Tunnel shafts do Identification Marks on Do. do Material of Screw shafts do Identification Marks on Do. do

Material of Steam Pipes Steel & Copper Test pressure 660 & 460 lbs per sq. inch

Is an installation fitted for burning oil fuel No 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

Is this machinery duplicate of a previous case No If so, state name of vessel Yes

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

The machinery of this vessel has been built under special survey the materials and workmanship of good quality, it has been securely fitted on board and satisfactorily tested under full steam.

After the mooring trial it was found that the after furnace of the after centre boiler was bulged inwards due to a laminated plate. The distance between the outer or water side lamina and the inner or fire side lamina at the centre of the bulge being 2 1/2". This furnace has been cut out and a new furnace fitted and the boiler tested by hydraulic pressure to 270 lbs per square inch.

In my opinion the machinery of this vessel is now eligible for record of L M C 10-20 (mixed) in the register book.

Two boiler plans, 7 forging & castings reports, 5 reports on steam pipes & minnies for furnaces and still test minnies now forwarded.

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for, 14 OCT 1920
Special ... £ 70 : 19 : 6
Donkey Boiler Fee ... £ : : : When received, 26-11-19
Travelling Expenses (if any) £ : : : 6629

Committee's Minute TUE OCT. 26 1920

Assigned + Ldn 6 10 20

George Murdoch Engineer Surveyor to Lloyd's Register of Shipping

Lloyd's Register Foundation