

REPORT ON MACHINERY.

No. 28237
WED DEC 28 1921

Received at London Office

Date of writing Report

19

When handed in at Local Office

20 DEC 1921

Port of

SUNDERLAND.

No. in Survey held at SUNDERLAND.
Reg. Book.Date, First Survey 18th Aug. 1920 Last Survey 15th Dec 1921
(Number of Visits 48)

on the new steel S/S "DAGHESTAN"

Gross 5742
Net 3522

Master

Built at Sunderland

By whom built Short Bros Ld (S/N 855)

When built 1921

Engines made at Sunderland

By whom made J. Dickinson & Sons Ld (N 855)

when made 1921

Boilers made at Sunderland

By whom made J. Dickinson & Sons Ld (N 855)

when made 1921

Registered Horse Power

Owners

Port belonging to Newcastle

Nom. Horse Power as per Section 28

573

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 27 $\frac{1}{2}$ - 45 - 75 Length of Stroke 48

Revs. per minute 70

Dia. of Screw shaft as per rule 14.89" Material of screw shaft as fitted 15 $\frac{1}{8}$ "

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 5'-3"

Dia. of Tunnel shaft as per rule 13.5" Dia. of Crank shaft journals as per rule 14.18"

as fitted 13 $\frac{3}{4}$ "as fitted 14 $\frac{1}{2}$ "Dia. of Crank pin 14 $\frac{1}{2}$ " Size of Crank webs 9 $\frac{1}{4}$ " x 26" Dia. of thrust shaft undercollars 14 $\frac{1}{2}$ " Dia. of screw 17'-9" Pitch of Screw 16'-9"

No. of Blades 4

State whether moveable no

Total surface 9974

No. of Feed pumps 2 Diameter of ditto 7" Stroke 24"

Can one be overhauled while the other is at work

yes

yes. steam up 9 $\frac{1}{2}$ " Weir's

No. of Bilge pumps 2 Diameter of ditto 5" Stroke 24"

Can one be overhauled while the other is at work

yes

yes

No. of Donkey Engines 2 Sizes of Pumps 7 $\frac{1}{2}$ x 4 $\frac{1}{2}$ x 10. 9 $\frac{1}{2}$ x 10 $\frac{1}{2}$ x 10"

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

In Engine Room 2 @ 3 $\frac{1}{2}$ & 1 @ 4"

In Holds, &c.

(Oil cargo tanks)

No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump

6P

Is a separate Donkey Suction fitted in Engine room & size

yes 4"

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

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

oil

Heating pipes only

How are they protected

yes

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 Top platform

BOILERS, &c.—(Letter for record)

S

Manufacturers of Steel

John Spencer & Sons Ld.

Total Heating Surface of Boilers 87210

Is Forced Draft fitted

yes

No. and Description of Boilers

Three single ended marine

Working Pressure 180

Tested by hydraulic pressure to

320

Date of test 21-7-21

No. of Certificate 3770

Can each boiler be worked separately

yes

Area of fire grate in each boiler

no bars

No. and Description of Safety Valves to

each boiler two direct spring

Area of each valve 8'3"

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

21"

Mean dia. of boilers 16'-1 $\frac{1}{2}$ "Length 11'-10 $\frac{1}{2}$ "

Material of shell plates steel

Thickness 1 $\frac{1}{2}$ " Range of tensile strength 28-32 ton

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

D.R.

long. seams NBS. TR

Diameter of rivet holes in long. seams 1 $\frac{3}{8}$ "Pitch of rivets 9 $\frac{5}{16}$ "Lap of plates or width of butt straps 1'-8 $\frac{1}{2}$ "

Per centages of strength of longitudinal joint

rivets 92.6

Working pressure of shell by rules

181

Size of manhole in shell 16" x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

3 Dighton

Material steel Outside diameter 4'-2"

Length of plain part

top 19"

Thickness of plates

bottom 19"

Description of longitudinal joint welded

Working pressure of furnace by the rules

184

Combustion chamber plates: Material steel

Thickness: Sides 2 $\frac{3}{32}$ "Back 1 $\frac{1}{16}$ "Pitch of stays to ditto: Sides 11" x 8 $\frac{1}{2}$ "Back 10 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ "

Top 9" x 9"

If stays are fitted with nuts or riveted heads

nuts in caps

Material of stays steel

Area at smallest part 2.030"

Area supported by each stay 95.6"

Working pressure by rules 191

End plates in steam space

Material steel

Thickness 1 $\frac{1}{2}$ "Pitch of stays 18" x 21 $\frac{1}{2}$ "

How are stays secured

DN & W

Area at smallest part 670"

Area supported by each stay 3820"

Working pressure by rules 182

Material of Front plates at bottom

steel

Thickness 2 $\frac{1}{8}$ "

Material of Lower back plate steel

Thickness 2 $\frac{1}{8}$ "Greatest pitch of stays 13" x 10 $\frac{1}{8}$ "

Working pressure of plate by rules 182

Diameter of tubes 2 $\frac{1}{2}$ "Pitch of tubes 3 $\frac{3}{4}$ " x 3 $\frac{3}{4}$ "

Material of tube plates steel

Thickness: Front 7 $\frac{1}{8}$ "Back 7 $\frac{1}{8}$ "Pitch across wide water spaces 14 $\frac{1}{4}$ " (50R)

Working pressures by rules 249

Girders to Chamber tops: Material steel

Depth and

thickness of girder at centre 208 $\frac{1}{4}$ " x 1"Length as per rule 2-10 $\frac{1}{2}$ "

Distance apart 9"

Number and pitch of stays in each

3 @ 9"

Working pressure by rules 182

Steam dome: description of joint to shell

none

Diam. of rivet holes

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

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 to

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Is Easing Gear fitted

Diameter of Safety Valve

Pressure to which each is adjusted

W447-0034

Lloyd's Register

Foundation

IS A DONKEY BOILER FITTED? *no*If so, is a report now forwarded? *—*

SPARE GEAR. State the articles supplied:— *Two connecting rod top and bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed and bridge pump valves, iron and bolts of various sizes, one screw shaft and one propeller.*

The foregoing is a correct description,

John Dickinson & Sons, Limited.

Wichinson

Manufacturer.

Dates of Survey while building
 During progress of work in shops -- *1920 Nov. 2, 9, 15, 22, 26, 29, Dec. 1, 2, 6, 8, 9, 12, 14, 15, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 1920 Aug. 12, Sep. 17, Oct. 13, 19, Nov. 3, 19, Dec. 14, 17*
 During erection on board vessel -- *1921 Feb. 16, 22, 25, Mar. 7, 10, Apr. 22, 28, May 3, July 14, 19, 21, Aug. 5, 17, Sept. 2, 12, 23, Oct. 3, 17, 21, 24, 27, 31, Nov. 3, 10, 17, 24, 27, 30, 1921 Jan. 3, 10, 17, 24, 31, Feb. 7, 14, 21, 28, Mar. 7, 14, 21, 28, Apr. 4, 11, 18, 25, May 2, 9, 16, 23, 30, Jun. 6, 13, 20, 27, 30, 1921 Aug. 13, 20, 27, 30, 1921 Oct. 13, 20, 27, 30, 1921 Dec. 13, 20, 27, 30, 1921*
 Total No. of visits *48*

Is the approved plan of main boiler forwarded herewith *yes*" " " donkey " " " *no*Dates of Examination of principal parts—Cylinders *25-2-21* Slides *28-4-21* Covers *3-5-21* Pistons *7-3-21* Rods *10-3-21*Connecting rods *28-4-21* Crank shaft *7-3-21* Thrust shaft *19-7-21* Tunnel shafts *19-7-21* Screw shaft *17-8-21* Propeller *3-10-21*Stern tube *20-9-21* Steam pipes tested *2, 7, 8, 10-11-21* Engine and boiler seatings *21-9-21* Engines holding down bolts *3-10-21*Completion of pumping arrangements *21-11-21* Boilers fixed *17-10-21* Engines tried under steam *5-12-21*Completion of fitting sea connections *21-9-21* Stern tube *24-10-21* Screw shaft and propeller *24-10-21*Main boiler safety valves adjusted *25-11-21* Thickness of adjusting washers *Port 16" F⁷/₁₆" A³/₈" Slide 16" both ³/₈" Feed 16" F³/₈" A¹/₂"*Material of Crank shaft *2 steel* Identification Mark on Do. *LLOYD'S NO 855* Material of Thrust shaft *2 steel* Identification Mark on Do. *LLOYD'S NO 855*Material of Tunnel shafts *2 steel* Identification Marks on Do. *L.C.D.* Material of Screw shafts *Sing. Iron* Identification Marks on Do. *L.C.D.*Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs per sq. in.*Is an installation fitted for burning oil fuel *yes* 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 *—*

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

*The materials and workmanship are good.**The machinery has been constructed under special survey and is eligible in my opinion for classification and the records + LMC 12, 21. Fitted for oil fuel F.P. above 150° F. 12, 21.*

THE RECORD.

*+ L.M.C. - 12.21. F.D. C.L.**Fitted for Oil Fuel, 12.21, F.P. above 150° F.**L.S.
28/12/21. J.P.R.*The amount of Entry Fee ... £ *6*Special ... £ *103 : 13*

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for.

20 DEC 1921

When received.

*24 DEC 1921**S.C. Davis*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 4 JAN 1922

Assigned

*+ L.M.C. 12.21. F.D. C.L.**Fitted for oil fuel 12.21**F.P. above 150° F.*

CERTIFICATE WRITTEN



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