

## REPORT ON MACHINERY.

No. 28619

Date of writing Report

19

When handed in at Local Office

20 July 1923

Received at London Office

THU JUL 26 1923

No. in Survey held at

SUNDERLAND

Date, First Survey

1st April '20

Last Survey

17 July 1923

Reg. Book.

on the SS. ERRINGTON DUNFORD

(Number of Visits)

36

Master

Built at Sunderland

By whom built Messrs Swan Hunter, Higham &amp; Co. (212)

Tons

Gross 1196

Net 712

When built 1923

Engines made at Sunderland

By whom made Messrs Macdonell &amp; Pothack (350)

when made 1923

Boilers made at Sunderland

By whom made Messrs Macdonell &amp; Pothack (316)

when made 1923

Registered Horse Power

Owners Dunford S. S. &amp; Co. Ltd

Port belonging to Newcastle

Nom. Horse Power as per Section 28

160

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

YES

## ENGINES, &amp;c.—Description of Engines

Triple

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

17, 28, 46

Length of Stroke

30"

Revs. per minute

90

Dia. of Screw shaft

as per rule

9.419

Material of screw shaft

Steel

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

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

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

Length of stern bush

39"

Dia. of Tunnel shaft

as per rule

8.39"

Dia. of Crank shaft journals

as per rule

8.81"

Dia. of Crank pin

9"

Size of Crank webs

25 x 5 1/2"

Dia. of thrust shaft under

collars

9"

Dia. of screw

12-0"

Pitch of Screw

12-0"

No. of Blades

4

State whether moveable

No

Total surface

45 1/2"

No. of Feed pumps

2

Diameter of ditto

2 1/2"

Stroke

19"

Can one be overhauled while the other is at work

YES

No. of Bilge pumps

2

Diameter of ditto

2 1/2"

Stroke

19"

Can one be overhauled while the other is at work

YES

No. of Donkey Engines

2

Sizes of Pumps

7 x 8 1/2 x 8, + 5 1/2 x 3 1/2 x 5

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

In Engine Room

3 @ 2 1/2"

In Holds, &amp;c. No 1 Hold 2 @ 2 1/2" No 2 Hold 2 @ 2 1/4"

No. of Bilge Injections

1

sizes

4 1/2"

Connected to condenser to circulating pump

YES

Is a separate Donkey Suction fitted in Engine room &amp; size

YES 3 1/4"

Are all the bilge suction pipes fitted with roses

A

Are the roses in Engine room always accessible

YES

Are the stoves 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

NONE

Is it fitted with a watertight door

—

worked from

—

## BOILERS, &amp;c.—(Letter for record

S)

Manufacturers of Steel Spence &amp; Sons

Total Heating Surface of Boilers

2930 1/2

Is Forced Draft fitted

No

No. and Description of Boilers

2 SB.

Two Single Ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

26.8.20, 6.9.20

No. of Certificate

3709, 3716

Can each boiler be worked separately

YES

Area of fire grate in each boiler

44.0 1/2

No. and Description of Safety Valves to

each boiler

Two Spring Valves

Area of each valve

4.90"

Pressure to which they are adjusted

185 lbs

Smallest distance between boilers or uptakes and bunkers or woodwork

WAY BOILERS

Main dia. of boilers

12-9

Length

11-0

Material of shell plates

S

Thickness

1 3/4"

Range of tensile strength

28-32

Are the shell plates welded or flanged

NO

Descrip. of riveting: cir. seams

Laps etc

long. seams

d. H. Cr riv.

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

7 7/8"

Lap of plates or width of butt straps

15 3/4"

Per centages of strength of longitudinal joint

rivets

89.7

Working pressure of shell by rules

182

Size of manhole in shell

12 x 16

Size of compensating ring

27 x 29 x 1 3/4"

No. and Description of Furnaces in each boiler

2 Dighton

Material

S

Outside diameter

48 1/2"

Length of plain part

top

bottom

Thickness of plates

crown

3 9/16"

bottom

Description of longitudinal joint

welded

No. of strengthening rings

—

Working pressure of furnace by the rules

181

Combustion chamber plates: Material

S

Thickness: Sides

1 1/8"

Back

43/64"

Top

1 1/8"

Bottom

1 1/8"

Pitch of stays to ditto: Sides

8 5/8 x 10

Back

9 1/4 x 9

Top

9 x 10

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

180

Material of stays

S

Area at smallest part

1.450"

Area supported by each stay

90"

Working pressure by rules

204

End plates in steam space:

Material

S

Thickness

1 5/32"

Area at smallest part

6.10"

Area supported by each stay

328"

Working pressure by rules

193

Material of Front plates at bottom

S

Thickness

63/64"

Material of Lower back plate

S

Thickness

13/16"

Greatest pitch of stays

13"

Working pressure of plate by rules

183

Diameter of tubes

3 1/4"

Pitch of tubes

4 7/8 x 4 1/2"

Material of tube plates

S

Thickness: Front

63/64"

Back

51/64"

Mean pitch of stays

13 1/2 x 8 7/8"

Pitch across wide water spaces

14 1/4"

Working pressures by rules

183

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

8 x 1 1/8"

Length as per rule

3 1/2"

Distance apart

9"

Number and pitch of stays in each

2, 10"

Working pressure by rules

189

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 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 connecting rod bolts & nuts, two main bearing bolts, one set coupling bolts, one set feed and bilge pump valves, one propeller, assorted bolts and nuts, 2mm, various sizes.*

The foregoing is a correct description.

PER PRO MACCOLL & POLLOCK LTD

*JH Pilling*

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1920. Apr. 14. 27. 29. May. 14. 21. June 8. 14. 21. 29. July 28. Aug. 11. 19. 26. Sep. 1. 8. 1923. Feb. 8. 15.  
During erection on board vessel -- 23. May. 8. 15. 22. Apr. 5. 7. May. 11. 12. 24. 29. June 1. 11. 19. 29. July 5. 10. 11. 17.  
Total No. of visits 36

*the approved plan of main boiler forwarded herewith*

YES ☒

" donkey " " " ☒

Dates of Examination of principal parts—Cylinders 19.6.23 Slides 11.6.23 Covers 11.6.23 Pistons 19.6.23 Rods 19.6.23

Connecting rods 11.6.23 Crank shaft *Leith* Thrust shaft 1.6.23 Tunnel shafts **NONE** Screw shaft 24.5.23 Propeller 11.6.23

Stern tube 24.5.23 Steam pipes tested 5.7.23 Engine and boiler seatings 29.6.23 Engines holding down bolts 10.7.23

Completion of pumping arrangements 17.7.23 Boilers fixed 10.7.23 Engines tried under steam 12.7.23

Completion of fitting sea connections 29.6.23 Stern tube 29.6.23 Screw shaft and propeller 29.6.23

Main boiler safety valves adjusted 12.7.23 Thickness of adjusting washers *P.B.L. P 5/16 S 7/16 S.T.B. P 3/16 S 9/16* (276)

Material of Crank shaft *Steel* Identification Mark on Do. *544 A.T.T.* Material of Thrust shaft *Steel* Identification Mark on Do. *330 GAH* (5948)

Material of Tunnel shafts **NONE** Identification Marks on Do. ☒ Material of Screw shafts *Steel* Identification Marks on Do. *330 GAH*

Material of Steam Pipes *Copper* ☒ Test pressure *400 lbs 7"* ☒

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 main lines of this vessel were constructed originally for Contract No 316 and were finished and listed in 1920. Contract No 316 was cancelled. The lines have been examined internally and externally and were found in good condition, being free from fitting and corrosion.*

*The machinery of this vessel has been built under special survey. The materials and workmanship are sound and good and render the vessel eligible in our opinion to have record of L.M.C. 7.23.*

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 7.23. C.L.

*27/7/23*

The amount of Entry Fee ... £ 3 : : When applied for,

Special ... £ 40 : : 18<sup>th</sup> July 23

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ : : 12/10/23

Committee's Minute TUE JUL 31 1923

Assigned

*L.M.C. 7.23*  
*C.L.*

CERTIFICATE WRITTEN

*G. A. H. & L. Davis*

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation