

REPORT ON MACHINERY.

No. 9842

Received at London Office

AUG 1917

Date of writing Report

in

When handed in at Local Office

2.8.17

Port of

Middlesbrough

No. in Survey held at
Reg. Book.

Stockton

Date, First Survey

1st Nov. 16

Last Survey

27th July 1917

on the

Steel Screw Steamer "Thistlemore"

(S.S. No. 558)

Tons Gross 6506

Net 4146

Master E. W. Barry

Built at W. Hartlepool

By whom built Messrs Irwin's S.B. & D.D. Co

When built 1917

Engines made at Stockton

By whom made Messrs Blair & Co. Lim. (No. 1833)

when made 1917

Boilers made at Stockton

By whom made Messrs Blair & Co. Lim.

when made 1917

Registered Horse Power

686

Owners Furness Withy & Co. Lim.

Port belonging to Liverpool

Nom. Horse Power as per Section 28

687

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Tri-compound

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

29"-49"-80"

Length of Stroke

54

Revs. per minute

68

Dia. of Screw shaft

as per rule 16.86

Material of screw shaft

Eng. 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

in the propeller boss

yes

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

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

yes

If two

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

yes

Length of stern bush

5'-7 3/8"

Dia. of Tunnel shaft

as per rule 14.69

as fitted 14 7/8"

Dia. of Crank shaft journals

as per rule 15.45

as fitted 15 3/4"

Dia. of Crank pin

16 1/2"

Size of Crank webs

31 1/4" x 10 3/8"

Dia. of thrust shaft under

collars

15 3/4"

Dia. of screw

18'-9"

Pitch of Screw

19'-6"

No. of Blades

4

State whether moveable

no

Total surface

117 sq ft

No. of Feed pumps

Duplex

Diameter of ditto

9"

Stroke

21

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

36

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

9" x 11" x 10"

8" x 6" x 8"

8" x 6" x 8"

and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

4 @ 3 1/2" + 2 @ 2 1/2"

in dry tank under boilers

In Holds, &c.

2 @ 3 1/2"

each hold

+ funnel

will one @ 3"

No. of Bilge Injections

1

size 10"

Connected to condenser

centrifugal

circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

yes - 5"

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

suctions to forward holds

How are they protected

wood ceiling

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

Dates of examination of completion of fitting of Sea Connections

13/6/17

of Stern Tube

13/6/17

Screw shaft and Propeller

2.7.17

Is the Screw Shaft Tunnel watertight

see hull report

Is it fitted with a watertight door

yes

worked from

top platform

BOILERS, &c.—(Letter for record (S))

Manufacturers of Steel

Messrs John Spencer & Sons Lim.

Howdens

Total Heating Surface of Boilers

10410 sq ft

Is Forced Draft fitted

yes

No. and Description of Boilers

3

Single ended

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

31.5.17

No. of Certificate

5766

Can each boiler be worked separately

yes

Area of fire grate in each boiler

81.9 sq ft

No. and Description of Safety Valves to

each boiler

2 direct spring

Area of each valve

15.9 sq in

Pressure to which they are adjusted

180

Smallest distance between boilers

2'-0"

Mean dia. of boilers

17'-7 1/2"

Length

12'-0"

Material of shell plates

steel

Thickness

1 1/2"

Range of tensile strength

29-32 3/8

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

2 R. lap

long. seams

2 R. - 3 Riv

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

10 1/2"

Lap of plates or width of butt straps

22 3/8" x 1 1/2"

Per centages of strength of longitudinal joint

rivets 89.0

plate 85.14

Working pressure of shell by rules

210

Size of manhole in shell

16" x 12"

Size of compensating ring

9 x 1 1/2"

No. and Description of Furnaces in each boiler

4

Morison

Material

steel

Outside diameter

46 1/2"

Length of plain part

top

Thickness of plates

crown

bottom

Description of longitudinal joint

weld

No. of strengthening rings

yes

Working pressure of furnace by the rules

200

Combustion chamber plates: Material

steel

Thickness: Sides

4 1/2"

Back

5 1/8"

Top

1 1/4"

Bottom

7 1/8"

Pitch of stays to ditto: Sides

7 3/4" x 7 3/8"

Back

7 3/8" x 7 1/2"

Top

8 x 7 3/4"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

227

Material of stays

steel

Diameter at smallest part

1.69

Area supported by each stay

6.2

Working pressure by rules

218

End plates in steam space

yes

Material of stays

steel

Thickness

1 3/8"

Pitch of stays

13 1/2" x 17 1/2"

How are stays secured

nuts & washers

Working pressure by rules

225

Material of stays

steel

Diameter at smallest part

7.87

Area supported by each stay

344

Working pressure by rules

237

Material of Front plates at bottom

steel

Thickness

1"

Material of Lower back plate

steel

Thickness

1 1/2"

Greatest pitch of stays

14 1/2" x 7 5/8"

Working pressure of plate by rules

216

Diameter of tubes

2 1/2"

Pitch of tubes

3 3/4" x 3 3/4"

Material of tube plates

steel

Thickness: Front

1"

Back

2 3/32"

Mean pitch of stays

9 5/8"

Pitch across wide water spaces

13 3/4"

Working pressures by rules

189

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

8 1/2" x 2"

Length as per rule

34

Distance apart

8"

Number and pitch of stays in each

3 @ 7 3/8"

Working pressure by rules

201

Superheater or Steam chest: how connected to boiler

none

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

IS A DONKEY BOILER FITTED? *no.*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— *Two Each Top End, Bottom End & Main Bearing Bolt nuts, one set of coupling bolts one set ridge pump valves. one shut off & one check valve for main feed & also for donkey feedcheck one set air pump head valve, one set of independent feed pump valves. one Propeller & one propeller shaft, 2 safety valve springs, 50 condenser tubes assorted Bolt nuts & rivets.*

The foregoing is a correct description,
For BLAIR & CO., LIMITED.

Geo. Nettleship

Manufacturer.

SECRETARY

Dates of Survey while building { During progress of work in shops - - 1916 Nov 1. 3. 7. 9. 15. 17. 1917 Jan 30. Feb 12. 21. 26. 28. March 5. 6. 8. 12. 16. 19. 22. 26. Apr 2. 5. 6. 11. 13. 16. 17
During erection on board vessel - - - 19. 21. 24. 25. 26. 27. 30. May 2. 4. 8. 10. 11. 14. 16. 17. 18. 21. 24. 25. 31. June 1. 4. 6. 7. 8. 11. 13. 15. 17. 21. July 2
Total No. of visits 5. 9. 11. 16. 17. 25. 27 at West Rpt. June 13. Sep 19. 26. 29. Oct 3.
CH + 6. Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " " *none*

Dates of Examination of principal parts—Cylinders 14. 5. 17 Slides 21. 5. 17 Covers 24. 4. 17 Pistons 24. 5. 17 Rods 24. 5. 17
Connecting rods 1. 6. 17 Crank shaft 14. 5. 17 Thrust shaft 16. 4. 17 Tunnel shafts 19/3/17 Screw shaft 14. 5. 17 Propeller 19. 6. 17
Stern tube 7. 6. 17 Steam pipes tested *fls* 28. 3. 17 Engine and boiler seatings 28/9/17 Engines holding down bolts 9. 7. 17

Completion of pumping arrangements 27. 7. 17 Boilers fixed 27. 7. 17 Engines tried under steam 27. 7. 17
Main boiler safety valves adjusted 27. 7. 17 Thickness of adjusting washers *PB* $s - \frac{7}{16}$ *SB* $s - \frac{7}{16}$ *For B* $s - \frac{13}{32}$

Material of Crank shaft *Ing Steel* Identification Mark on Do. 7089 Material of Thrust shaft *Ing Steel* Identification Mark on Do. 1781. N

Material of Tunnel shafts *Ing Steel* Identification Marks on Do. 1781. N Material of Screw shafts *Ing Steel* Identification Marks on Do. 7089

Material of Steam Pipes *Lap welded wrought iron* Test pressure 540 lbs

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 *yes* If so, state name of vessel *S.S. Bay State, Indb Rpt 8817*

General Remarks (State quality of workmanship, opinions as to class, &c. *To complete the survey the spare gear requires to be examined and the hold sections completed. It is stated that this will be done at Hartlepool. The surveyors have been advised*

The machinery of this vessel has been built under special survey. The materials and workmanship are sound and good. The boilers were tested by hydraulic pressure and the engines and boilers examined under steam and all found satisfactory.

The machinery is now in a good and safe working condition and renders the vessel eligible in my opinion to have the notation of \star LMC 10/17 with a date when the survey is complete

The Electric Light installation has now been fitted & worked well, also provision has been by outside valves for discharging into carriage of oil in deep Tank & also Cellular Double Bottom.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 10.17. F.D.

The amount of Entry Fee ... £ 3 - 0 - 0 When applied for,
Special ... £ 54 - 7 - 0 2/8/1917
Donkey Boiler Fee ... £ 1 ✓ When received,
Travelling Expenses (if any) £ 1 ✓ 4/8/1917

Committee's Minute TUE OCT 30 1917.

Assigned

Wm Morrison 27/10/17
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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Foundation

MACHINERY & EQUIPMENT
WRITTEN.