

## REPORT ON MACHINERY

No. 1004  
2 NOV 1909

Std. 24270

Date of writing Report

19

When handed in at Local Office

Port of

Received at London Office

No. in Survey held at Stockton-on-Tees

Date, First Survey

14 August

Last Survey

26 October 1909

Reg. Book.

on the steel screw steamer LEVERSONS

(S. 5. 92. 256)

Tons

Gross 1774Net 1100

Master

Shorey

Built at

Sunderland

By whom built

Thos R. Thompson & Co.

When built

1909

Engines made at

Stockton

By whom made

Thos Blair & Co. Ltd (No. 1662)

when made

1909

Boilers made at

Stockton

By whom made

Thos Blair & Co. Ltd

when made

1909

Registered Horse Power

Owners

The Gordon & S. Co. Ltd

Port belonging to

London

Nom. Horse Power as per Section 28

218

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

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

Triple ExpansionNo. of Cylinders threeNo. of Cranks 3

Dia. of Cylinders

21-34-56

Length of Stroke

36

Revs. per minute

✓

Dia. of Screw shaft

as per rule 12.45Material of IRON

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

no

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—

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

noLength of stern bush 4'-4"

Dia. of Tunnel shaft

as per rule 10.23

Dia. of Crank shaft journals

as per rule 10.74

Dia. of Crank pin

11 1/2

Size of Crank webs

22 1/2 x 6 3/4collars 11 1/2

Dia. of screw

15'-0"

Pitch of Screw

16'-6"No. of Blades 4

State whether moveable

no

No. of Feed pumps

2

Diameter of ditto

2 3/4"

Stroke

26"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2"

Stroke

26"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

Ballast 10 x 13"Feed 4 x 8"

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

In Engine Room

4 @ 2 1/4"In Holds, &c. Fore hold 2 @ 2 1/4" aft hold 4 @ 2 1/4"Tunnel 1 @ 2 1/2"

No. of Bilge Injections

1sizes 4 1/2"

Connected to condenser or to circulating pump

yes

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

yes 3 3/4"

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 stowhold 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

fore hold

How are they protected

wood casing

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

yesFore Room, Yes; aft hold, 4 fore hold, 1 tunnel

Dates of examination of completion of fitting of Sea Connections

15.10.09

of Stern Tube

15.10.09

Screw shaft and Propeller

19.10.09Is the Screw Shaft Tunnel watertight see hull report Is it fitted with a watertight dooryesworked from top platform

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

Manufacturers of Steel

Thos J. Spencer & Sons Ltd

Total Heating Surface of Boilers

3550

Is Forced Draft fitted

no

No. and Description of Boilers

2 Single Ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360

Date of test

8.10.09

No. of Certificate

4325

Can each boiler be worked separately

yes

Area of fire grate in each boiler

50 1/2 sq ft

No. and Description of Safety Valves to

each boiler

2 direct spring

Area of each valve

5.94

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

Mean dia. of boilers

13'-9"

Length

10'-6"

Material of shell plates

steel

Thickness

1 1/2"

Range of tensile strength

28-32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

2 Riv lap

long. seams

2 B-3 Riv

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

8 3/8"

Lap of plates or width of butt straps

17 1/2 x 1 1/2"

Per centages of strength of longitudinal joint

rivets 87.6plate 85-82

Working pressure of shell by rules

184 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

7 1/2" x 1 1/2"

No. and Description of Furnaces in each boiler

3 Ribbed

Material

steel

Outside diameter

36"

Length of plain part

top

Thickness of plates

1 1/2"

Description of longitudinal joint

welded

No. of strengthening rings

✓

Working pressure of furnace by the rules

193

Combustion chamber plates: Material

steel

Thickness: Sides

1/2"

Back

1/2"

Pitch of stays to ditto: Sides

9 3/4" x 9 3/4"

Back

9 3/4" x 8 3/4"

Top

9 3/4" x 9 3/4"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

183 lbs

Material of stays

steel

Diameter at smallest part

1.59

Area supported by each stay

89 sq in

Working pressure by rules

201

End plates in steam space:

Material

steel

Thickness

1 1/4"

Pitch of stays

21 1/2 x 18

How are stays secured

nuts

Working pressure by rules

188

Diameter at smallest part

3.04

Area supported by each stay

387 sq in

Working pressure by rules

193

Material of Front plates at bottom

steel

Thickness

1 1/2"

Material of Lower back plate

steel

Thickness

1 1/2"

Greatest pitch of stays

17 1/4 x 8 3/4"

Working pressure of plate by rules

180

Diameter of tubes

3 1/2"

Pitch of tubes

4 1/2 x 4 3/8"

Material of tube plates

steel

Thickness: Front

1 1/2"

Back

1 1/2"

Mean pitch of stays

9 3/4"

Pitch across wide water spaces

14 1/4"

Working pressures by rules

187 lbs

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

7 1/2 x 1 1/2"

Length as per rule

28"

Distance apart

9 3/4"

Number and pitch of stays in each

2 @ 9 3/4"

Working pressure by rules

189

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

VERTICAL DONKEY BOILER—

Manufacturers of Steel *none*

No. *1003* Description *Donkey Boiler*  
 Made at *1106 St* By whom made *Wm Morrison* When made *1909* Where fixed *1106 St*  
 Working pressure tested by hydraulic pressure to *100 lbs* Date of test *1909* No. of Certificate *1106 St* Fire grate area *1106 St* Description of Safety *1106 St*  
 Valves *1106 St* No. of Safety Valves *1106 St* Area of each *1106 St* Pressure to which they are adjusted *1106 St* Date of adjustment *1106 St*  
 If fitted with easing gear *1106 St* If steam from main boilers can enter the donkey boiler *1106 St* Dia. of donkey boiler *1106 St* Length *1106 St*  
 Material of shell plates *1106 St* Thickness *1106 St* Range of tensile strength *1106 St* Descrip. of riveting long. seams *1106 St*  
 Dia. of rivet holes *1106 St* Whether punched or drilled *1106 St* Pitch of rivets *1106 St* Lap of plating *1106 St* Per centage of strength of joint *1106 St*  
 Working pressure of shell by rules *1106 St* Thickness of shell crown plates *1106 St* Radius of do. *1106 St* No. of stays to do. *1106 St* Dia. of stays *1106 St*  
 Diameter of furnace Top *1106 St* Bottom *1106 St* Length of furnace *1106 St* Thickness of furnace plates *1106 St* Description of joint *1106 St*  
 Working pressure of furnace by rules *1106 St* Thickness of furnace crown plates *1106 St* Stayed by *1106 St*  
 Diameter of uptake *1106 St* Thickness of uptake plates *1106 St* Thickness of water tubes *1106 St* Dates of survey *1106 St*

SPARE GEAR. State the articles supplied:— *Two each of connecting rod top end: bottom end and main bearing bolts and nuts: one set of coupling bolts and nuts: one set of piston rings: one set feed and bilge pump valves: assorted bolts and nuts: iron of various sizes and one cast iron propeller*

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

*Geo. H. H. H. H.*

Manufacturer.

Dates of Survey while building *1909 Aug. 10. 14. 24. 27. 30. Sept. 1. 2. 7. 9. 11. 15. 22. 24. 28. 30. Oct. 1. 5. 7. 8. 12. 14. 15. 19. 21. 25. 26.*  
 During progress of work in shops *1909 Aug. 10. 14. 24. 27. 30. Sept. 1. 2. 7. 9. 11. 15. 22. 24. 28. 30. Oct. 1. 5. 7. 8. 12. 14. 15. 19. 21. 25. 26.*  
 During erection on board vessel *1909 Oct. 30. Nov. 4.*  
 Total No. of visits *27 + 2 = 29*

Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders *9.15.09* Slides *24.9.09* Covers *15.9.09* Pistons *22.9.09* Rods *22.9.09*  
 Connecting rods *22.9.09* Crank shaft *28.9.09* Thrust shaft *28.9.09* Tunnel shafts *9.22.9.09* Screw shaft *5.10.09* Propeller *2.10.09*  
 Stern tube *2.10.09* Steam pipes tested *25.10.09* Engine and boiler seatings *15.10.09* Engines holding down bolts *25.10.09*  
 Completion of pumping arrangements *26.10.09* Boilers fixed *25.10.09* Engines tried under steam *26.10.09*  
 Main boiler safety valves adjusted *26.10.09* Thickness of adjusting washers *P. 136 PV-11/32, SV-3/8 f: St 136-PV-11/32, SV-11/32*

Material of Crank shaft *Eng Steel* Identification Mark on Do. *6516* Material of Thrust shaft *Eng Steel* Identification Mark on Do. *6902-N*  
 Material of Tunnel shafts *Eng Steel* Identification Marks on Do. *6902-N* Material of Screw shafts *IRON* Identification Marks on Do. *6517*  
 Material of Steam Pipes *Solid drawn copper 4 1/2 Bore x 5.2.5.9.* Test pressure *400 lbs.*

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

*To complete the survey the items marked on the report, namely:— Examination of sea connections, stern tube, non-return valves in tunnel & engine and boiler seatings require to be noted on the report. It is stated that this work has been carried out at Sunderland.*

*The machinery of this vessel has been built under Special Survey and satisfactorily run on board in accordance with the Rules. The materials and workmanship are sound and good. They are now in a good working condition and eligible in my opinion to have the notation of L.M.C 11.09 when the survey has been completed.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 11.09

*Wm Morrison*  
 19.11.09 *19.11.09*

The amount of Entry Fee.. £ *2-0-0* When applied for. *17.11.09*  
 Special .. £ *30-18-0*  
 Donkey Boiler Fee .. £ *✓*  
 Travelling Expenses (if any) £ *✓* When received. *20.11.09*

Committee's Minute

Assigned *+ L.M.C 11.09*

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

*E. J. Stoddart*



© 2020

Lloyd's Register Foundation