

REPORT ON MACHINERY.

No. 22736

Port of Hull.

Received at London Office

19

No. in Survey held at Hull

Date, first Survey Feb. 28thLast Survey 9th July

1910

Reg. Book.

619 on the

Steel S.S. Normandy

(Number of Visits 42)

Gross 618

Tons Net 257

When built 1910

Master

Built at Hull

By whom built Messrs Earles & Co. Ltd.

Engines made at

By whom made

when made 1910

Boilers made at

By whom made

when made 1910

Registered Horse Power

Owners Lou & Bughton & Co. Ltd. Port belonging to Newhaven

Nom. Horse Power as per Section 28 149

Is Refrigerating Machinery fitted for cargo purposes Yes

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders

15 1/2" - 25" - 40"

Length of Stroke 27"

Revs. per minute 150

Dia. of Screw shaft

as per rule 7.78"

Material of 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 one length 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 36"

Dia. of Tunnel shaft

as per rule 7.27"

Dia. of Crank shaft journals

as per rule 7.63"

Dia. of Crank pin 8 1/4"

Size of Crank webs 16" x 5 1/2"

Dia. of thrust shaft under

collars 8"

Dia. of screw 8" - 9"

Pitch of Screw 9" - 4 1/2"

No. of Blades 4

State whether moveable No

Total surface 29 sq ft

No. of Feed pumps Two

Diameter of ditto 2 3/4"

Stroke 12"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two

Diameter of ditto 2 3/4"

Stroke 12"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two

Sizes of Pumps 7" x 4 1/2" x 8" and 6"

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

In Engine Room Three 2 1/2" and One 5"

In Holds, &c. Two 2 1/2" in fore hold, One 2 1/2" in

aft hold, One 2" tunnel well, One 4" in fore peak, One 6" to aft peak.

No. of Bilge Injections 1

sizes 5"

Connected to condenser, or to circulating pump pump

Is a separate Donkey Suction fitted in Engine room & size Yes 2 1/2"

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 hold suction

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 Yes

Dates of examination of completion of fitting of Sea Connections 28.6.10

of Stern Tube 28.6.10

Screw shaft and Propeller 28.6.10

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from main deck.

BOILERS, &c.—(Letter for record r)

Manufacturers of Steel W. Beardmore & Co. & Corns & Son & Co.

Iron. Kirkstall Forge & Co. Leeds.

Total Heating Surface of Boilers 3200 sq ft

Is Forced Draft fitted No

No. and Description of Boilers 2 Cyl. Mult. Single Ended.

Working Pressure 165 lbs

Tested by hydraulic pressure to 330 lbs

Date of test 30.5.10

No. of Certificate 1745

Can each boiler be worked separately Yes

Area of fire grate in each boiler 442 sq ft

No. and Description of Safety Valves to

each boiler Two spring

Area of each valve 4.91 sq in

Pressure to which they are adjusted 170 lbs

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 11"

Mean dia. of boilers 12.9 1/8"

Length 10'-0"

Material of shell plates Steel

Thickness 1 1/16"

Range of tensile strength 29.32

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams L. D.

long. seams D. B. S. J. R.

Diameter of rivet holes in long. seams 1 1/8"

Pitch of rivets 7 5/8"

Lap of plates or width of butt straps 16 1/4"

Per centages of strength of longitudinal joint rivets 91.

plate 85.24

Working pressure of shell by rules 189 lbs

Size of manhole in shell and plate 16 x 12"

Size of manhole in shell and plate 16 x 12"

No. and Description of Furnaces in each boiler Two Morrison's

Material Steel

Outside diameter 4'-1 1/2"

Length of plain part top

Thickness of plates crown 9"

Description of longitudinal joint welded

No. of strengthening rings

Working pressure of furnace by the rules 178 lbs

Combustion chamber plates: Material Steel

Thickness: Sides 19"

Back 19"

Top 19"

Bottom 19"

Pitch of stays to ditto: Sides 9 1/2" x 7 1/2"

Back 8" x 7 1/2"

Top 9" x 6 3/4"

If stays are fitted with nuts or riveted heads Nuts

Working pressure by rules 174 lbs

Material of stays Iron

Diameter at smallest part 1 3/8"

Area supported by each stay 68.43 sq in

Working pressure by rules 173 lbs

End plates in steam space:

Material Steel

Thickness 1 3/32"

Pitch of stays 17 1/2" x 18"

How are stays secured D. N.

Working pressure by rules 170 lbs

Material of stays Steel

Diameter at smallest part 2 3/16"

Area supported by each stay 315 sq in

Working pressure by rules 205 lbs

Material of Front plates at bottom Steel

Thickness 7/8"

Material of Lower back plate Steel

Thickness 3 1/32"

Greatest pitch of stays 15" x 7 3/4"

Working pressure of plate by rules 172 lbs

Diameter of tubes 3"

Pitch of tubes 4 1/2" x 4 1/2"

Material of tube plates Steel

Thickness: Front 7/8"

Back 13/16"

Mean pitch of stays 8 1/2"

Pitch across wide water spaces 13"

Working pressures by rules 174 lbs

Girders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 8" x 1 1/2"

Length as per rule 2'-4 3/32"

Distance apart 9'

Number and pitch of stays in each 3 - 6 3/4"

Working pressure by rules 182 lbs

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

W1544-0095

VERTICAL DONKEY BOILER— Manufacturers of Steel

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

SPARE GEAR. State the articles supplied:— Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each air circulating feed and barge pump valves, one set check valves, and a quantity of assorted bolts.

The foregoing is a correct description,
J. J. Salethorpe
 SECRETARY, Manufacturer.

Dates of Survey while building { During progress of work in shops - 1910 - Feb 28. Mar. 7. 9. 16. 21. 23. Apr 8. 21. 22. 26. 27. May 4. 10. 21. 23. 25. 26. 28. 30 Jun 2. 4. 6
 { During erection on board vessel - Jun 8. 9. 10. 11. 13. 14. 16. 17. 18. 20. 21. 22. 24. 27. 28. July 1. 6. 8. 9.
 Total No. of visits 42

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 2. 6. 10 Slides 23. 5. 10 Covers 2. 6. 10 Pistons 28. 4. 10 Rods 4. 6. 10

Connecting rods 21. 4. 10 Crank shaft 22. 4. 10 Thrust shaft 28. 5. 10 Tunnel shafts 28. 5. 10 Screw shaft 23. 5. 10 Propeller 23. 5. 10

Stern tube 26. 5. 10 Steam pipes tested 20. 6. 10 Engine and boiler seatings 28. 5. 10 Engines holding down bolts 24. 6. 10

Completion of pumping arrangements 1. 4. 10 Boilers fixed 24. 6. 10 Engines tried under steam 1. 4. 10

Main boiler safety valves adjusted 6. 4. 10 Thickness of adjusting washers 14/32 12/32 12/32 15/32

Material of Crank shaft Steel Identification Mark on Do. 2490 WDM Material of Thrust shaft Steel Identification Mark on Do. 2491 WDM

Material of Tunnel shafts Steel Identification Marks on Do. 2491 WDM Material of Screw shafts Steel Identification Marks on Do. 2490 WDM

Material of Steam Pipes Solid drawn Copper Test pressure 360 lbs per sq inch

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boilers of this vessel have been constructed under special survey in accordance with the Society's Rules. The materials and workmanship are sound and good. The boiler tested by hydraulic pressure, and with the engines secured on board, and tested under steam, they are now in good order and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of + L.M.C. 7.10 in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 7.10.

The amount of Entry Fee..	£ 2	:	:	When applied for,
Special	£ 22	:	4	8. 7. - 1910
Donkey Boiler Fee ..	£	:	:	When received,
Travelling Expenses (if any) £		:	:	16. 7. - 1910

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

Committee's Minute

Assigned

TUES. 19 JUL 1910

+ L.M.C. 7.10



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