

REPORT ON MACHINERY.

No. 6239

Port of MIDDLESBROUGH-ON-TEES

Received at London Office 14th 5 MAY 1910

No. in Survey held at Stockton-on-Tees Date, first Survey 22nd Nov. 1909 Last Survey 25th April 1910
 Reg. Book Wagon the Steel Screw Steamer "Spilsby" (S.S. No. 451)
 Master A. H. Goldworthy Built at Stockton By whom built Messrs. Rapner & Sons Ltd. Tons Gross 3661.07
Net 2254.48
 Engines made at Stockton By whom made Messrs. Blair & Co. Lim (N^o 1665) when made 1910
 Boilers made at Stockton By whom made Messrs. Blair & Co. Lim when made 1910
 Registered Horse Power _____ Owners Messrs. R. Rapner & Co. Port belonging to Stockton
 Nom. Horse Power as per Section 28 323 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines

Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 25"-41"-67" Length of Stroke 45 Revs. per minute 56 Dia. of Screw shaft as per rule 13.9 Material of screw shaft iron
 as fitted 15

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 yes 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 12.4 Dia. of Crank shaft journals as per rule 13.02 Dia. of Crank pin 14 Size of Crank webs 27x9 Dia. of thrust shaft under rollers 14 Dia. of screw 17'-0" Pitch of Screw 17'-0" No. of Blades 4 State whether moveable no Total surface 90 sq ft

No. of Feed pumps 2 Diameter of ditto 3 3/4 Stroke 33 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4 3/4 Stroke 33 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps Ballast 9x10, Fuel 4x8 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 @ 3" + one @ 3 1/2" In Holds, &c. 2 @ 2 3/4" in each hold
 Tunnel with one at 2 1/2"

No. of Bilge Injections 1 sizes 6 1/4" Connected to condensers, or to circulating pump yes 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 yes
 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 four hold 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 1.4.10 of Stern Tube 21.3.10 Screw shaft and Propeller 14.4.10
 Is the Screw Shaft Tunnel watertight see hull Rpt. Is it fitted with a watertight door yes worked from top platform

OILERS, &c.—(Letter for record (5))

Manufacturers of Steel Messrs. J. Spencer & Sons
 Total Heating Surface of Boilers 4927 Is Forced Draft fitted no No. and Description of Boilers 2 Single Ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 24.3.10 No. of Certificate 4397

Can each boiler be worked separately yes Area of fire grate in each boiler 66 sq ft No. and Description of Safety Valves to each boiler 2 direct spring Area of each valve 8.29 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or between and bunkers or between 2'-0" ext dia. of boilers 16'-0" Length 10'-6" Material of shell plates steel
 Thickness 1 3/32 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 Riv Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 9 1/2 Lap of plates or width of butt straps 19 3/8 x 1 1/4
 Per centages of strength of longitudinal joint rivets 87.1 Working pressure of shell by rules 184 Size of manhole in shell 16" x 12"
 plate 85.54 (nominal)

Size of compensating ring 7 1/2 x 1 3/32 No. and Description of Furnaces in each boiler 3 Corrugated Material steel Outside diameter 48"
 Length of plain part top _____ bottom _____ Thickness of plates crown } 37 Description of longitudinal joint welded No. of strengthening rings _____ bottom } 64

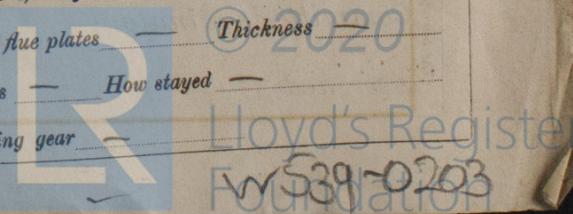
Working pressure of furnace by the rules 189 Combustion chamber plates: Material steel Thickness: Sides 1/2 Back 1/2 Top 1/2 Bottom 1 3/16
 Pitch of stays to ditto: Sides 9 1/2 x 9 1/2 Back 8 1/2 x 9 1/2 Top 9 3/4 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181

Material of stays steel Diameter at smallest part 1.59 Area supported by each stay 90.25 Working pressure by rules 198 End plates in steam space: Material steel Thickness 1 1/2 Pitch of stays 20 1/2 How are stays secured nuts Working pressure by rules 183 Material of stays steel
 Diameter at smallest part 3.29 Area supported by each stay 446.25 Working pressure by rules 198 Material of Front plates at bottom steel
 Thickness 1" Material of Lower back plate steel Thickness 1" Greatest pitch of stays 14 1/2 x 9 1/2 Working pressure of plate by rules 230

Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 x 4 3/8 Material of tube plates steel Thickness: Front 1 1/2 Back 1 3/8 Mean pitch of stays 10 1/2"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 181 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 7 1/2" x 1 1/2" Length as per rule 27 1/2 Distance apart 9 3/4" Number and pitch of stays in each 2 @ 9"

Working pressure by rules 183 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 _____ Diam. of rivet holes _____ Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____

If 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 _____



VERTICAL DONKEY BOILER— *Manufacturers of Steel* See also Indt Report No 6064

No. *one* Description *Multitubular Single ended*
 Made at *Stockton* By whom made *J. Sudron & Co (No 2593)* When made *1910* Where fixed *Upper st in Bd*
 Working pressure *100* tested by hydraulic pressure to *200* Date of test *20.12.09* No. of Certificate *4346* Fire grate area *30 1/2* Description of Sc
 Valves *direct spring* No. of Safety Valves *2* Area of each *7.07* Pressure to which they are adjusted *105* Date of adjustment *22.4*
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *10'-6"* Length *10'-0"*
 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
 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 of Top end, bottom end & main bearing bolts and nuts; one set of coupling bolts & nuts; one set feed & bilge pump valves; HP & piston rings, assorted bolts & nuts, iron of various sizes and one tail shaft*

The foregoing is a correct description,
FOR BLAIR & CO., LIMITED
Geo. North Manufacturer.

Dates of Survey while building
 During progress of work in shops - - - - - *1909. 10.04.22.25.29. Dec. 2. 9. 15. 17. 20. 22. 1910. Jan. 4. 6. 14. 18. 20. 24. 26. 28. 31. & by 1.0*
 During erection on board vessel - - - - - *4. 7. 8. 10. 11. 14. 16. 18. 21. 22. 25. 28. Mar. 2. 4. 7. 9. 11. 14. 15. 16. 18. 21. 23. 24. Apr. 1. 4. 6. 11. 14. 15. 18. 21. 22. 25.*
 Total No. of visits *55* Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *10. 2. 10* Slides *10. 2. 10* Covers *25. 2. 10* Pistons *25. 2. 10* Rods *25. 2. 10*
 Connecting rods *9. 3. 10* Crank shaft *4. 3. 10* Thrust shaft *4. 2. 10* Tunnel shafts *23. 2. 10* Screw shaft *6. 4. 10* Propeller *4. 4. 10*
 Stern tube *16. 3. 10* Steam pipes tested *15. 4. 10* Engine and boiler seatings *1. 4. 10* Engines holding down bolts *14. 4. 10*
 Completion of pumping arrangements *21. 4. 10* Boilers fixed *21. 4. 10* Engines tried under steam *21. 4. 10*
 Main boiler safety valves adjusted *21. 4. 10* Thickness of adjusting washers *Port Boiler PV= 5/16, SV= 5/32 Star Boiler PV= 5/16, SV= 5/16*
 Material of Crank shaft *Eng Steel* Identification Mark on Do. *6550* Material of Thrust shaft *Eng Steel* Identification Mark on Do. *7018*
 Material of Tunnel shafts *Eng Steel* Identification Marks on Do. *7018.N* Material of Screw shafts *iron* Identification Marks on Do. *6550*
 Material of Steam Pipes *solid drawn copper (7 x 5/8 & 5 1/2 x 1/2)* Test pressure *360 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been built under Special Survey. The materials and workmanship are sound and good. The boiler and main steam pipes were tested by hydraulic pressure, and the engines and boilers were examined under steam at a wharf and all found satisfactory*
The machinery is now in a good and safe working condition and eligible in my opinion to have the notation of LMC-4.10 in the Register Book

It is submitted that
 this vessel is eligible for
THE RECORD. + LMC 4.10.

JWD
JM 7/9/10

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

N.H.P. = 323
 The amount of Entry Fee. . . £ *30-0-0* When applied for, *21. 4. 10*
 Special £ *36-3-0* 19.
 Donkey Boiler Fee £ : : When received, *20. 4. 10*
 Travelling Expenses (if any) £ : : 19.

Committee's Minute
 Assigned
 FRI. 6 MAY 1910
 + L.M.C. 4.10

MACHINERY CERTIFICATE WRITTEN.



FLAT PLATE I (If Bar Keel, or GARBOARD OR State actual thickness in way of Double Bottom.)
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 Length and
 POOP SIDES
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