

Rpt. 4.

REPORT ON MACHINERY.

No. 66085

Date of writing Report 14th May 1914 When handed in at Local Office 15th May 1914

Received at London Office

MON. MAY. 18. 1914

No. in Survey held at
Reg. Book.

Newcastle

Port of NEWCASTLE-ON-TYNE.

Date, First Survey 1st Oct. 1913 Last Survey 6th May 1914

138 on the Machinery of the S.S. Springwell

(Number of Visits 4)

Master

Built at Newcastle

By whom built Wood & Skinner & Co.

Tons Gross 5592
Net 3552

Engines made at Newcastle

By whom made

North Eastern Marine Eng. Co. When made 1914

Boilers made at "

By whom made

when made 1914

Registered Horse Power

Owners

Well Line Ltd.

Port belonging to Newcastle

Nom. Horse Power as per Section 28 664

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Quadruple

No. of Cylinders 4

No. of Cranks 4

Dia. of Cylinders 25½", 36", 52½", 76" Length of Stroke 54"

Revs. per minute 72

Dia. of Screw shaft as per rule 15.59"

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

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

If two

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

Length of stern bush 5'-6"

Dia. of Tunnel shaft as per rule 14.17"

as fitted 14.58"

Dia. of Crank shaft journals as per rule 14.88"

as fitted 15.38"

Dia. of Crank pin 15.38"

Size of Crank webs 22½" x 9½"

Dia. of thrust shaft under

collars 15.38"

Dia. of screw 18'-6"

Pitch of Screw 18'-6"

No. of Blades 4

State whether moveable Yes

Total surface 103 sq

No. of Feed pumps 2

Diameter of ditto 8"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 5"

Stroke 30"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3

Sizes of Pumps 10" x 12" x 12", 9" x 6" x 10", 6" x 4" x 6"

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

In Engine Room 5 of 3½"

In Holds, &c. 2 of 3½" in each hold

and 1 of 3½" in tunnel well

No. of Bilge Injections 1

sizes 10"

Connected to condenser, or to circulating pump pumps

Is a separate Donkey Suction fitted in Engine room & size Yes 3½"

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 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

Dates of examination of completion of fitting of Sea Connections 23/2/14

of Stern Tube 23/2/14

Screw shaft and Propeller 27/3/14

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Top platform

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

J. & S. Spencer & Sons

Total Heating Surface of Boilers 9651

Is Forced Draft fitted Yes

No. and Description of Boilers 3 Single-ended

Working Pressure 220 lbs

Tested by hydraulic pressure to 440 lbs

Date of test 24/2/14 & 4/3/14

No. of Certificate 8619 & 8623

Can each boiler be worked separately Yes

Area of fire grate in each boiler 71.5 sq

No. and Description of Safety Valves to

each boiler 2 direct spring

Area of each valve 9.62

Pressure to which they are adjusted 225 lbs

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18"

Mean dia. of boilers 16'-2½"

Length 12'-6"

Material of shell plates Steel

Thickness 1½"

Range of tensile strength 28½"-32½"

Are the shell plates welded or flanged no

Descrip. of riveting: cir. seams d. r. lap

long. seams d. r. d. l.

Diameter of rivet holes in long. seams 1½"

Pitch of rivets 10½"

Lap of plates or width of butt straps 22½"

20½"

Per centages of strength of longitudinal joint

rivets 85.18

plate 85.4

Working pressure of shell by rules 222 lbs

Size of manhole in shell 16" x 12"

Size of compensating ring flanged

No. and Description of Furnaces in each boiler 4 Doughton

Material Steel

Outside diameter 43"

Length of plain part top

Thickness of plates crown

bottom 58"

Description of longitudinal joint welded

No. of strengthening rings

Working pressure of furnace by the rules 234 lbs

Combustion chamber plates: Material Steel

Thickness: Sides 2½"

Back 2½"

Top 2½"

Bottom 1½"

Pitch of stays to ditto: Sides 9½" x 8½"

Back 9½" x 8½"

Top 9½" x 8½"

If stays are fitted with nuts or riveted heads nuts

Working pressure by rules 220 lbs

Material of stays Steel

Diameter at smallest part 2.03

Area supported by each stay 80.8

Working pressure by rules 226 lbs

End plates in steam space:

Material Steel

Thickness 1½"

Pitch of stays 24½" x 17½"

How are stays secured d. n. sw.

Working pressure by rules 212 lbs

Material of stays Steel

Diameter at smallest part 9.62

Area supported by each stay 429

Working pressure by rules 227 lbs

Material of Front plates at bottom Steel

Thickness 1½"

Material of Lower back plate Steel

Thickness 3½"

Greatest pitch of stays 14½" x 8½"

Working pressure of plate by rules 229 lbs

Diameter of tubes 2½"

Pitch of tubes 3¾" x 3¾"

Material of tube plates Steel

Thickness: Front 1½"

Back 1¾"

Mean pitch of stays 7½" x 7½"

Pitch across wide water spaces 14½"

Working pressures by rules 220 lbs

Girders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 9½" x 2"

Length as per rule 36"

Distance apart 9½"

Number and pitch of stays in each 3 of 8½"

Working pressure by rules 220.5 lbs

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

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

No

Yes

No

Yes

No

No. of Visits 7

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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:—

Two top & 2 bottom end bolts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, a quantity of assorted bolts nuts & iron, 1 propeller shaft, 2 propeller blades, 2 top half eccentric straps, 1 slide rod

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING CO., LTD.

J. G. Harrison

Manufacturer.

Secretary.

Dates of Survey while building
During progress of work in shops - - - 1913 Oct. 17. 24. 28. 31. Dec. 9. 10. 22. 23. 31. 1914 Jan. 5. 6. 7. 8. 13. 14. 19. 20. 26. 27. 28. 29. 30. Feb. 3. 4. 6. 13. 14.
During erection on board vessel - - - 16. 17. 23. 24. 26. 27. Mar. 2. 4. 5. 9. 12. 19. 27. Apr. 3. 6. 15. 17. 27. May 6.
Total No. of visits 47.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 4/1/14 Slides 9/3/14 Covers 17/2/14 Pistons 19/1/14 Rods 6/2/14
Connecting rods 31/10/13 Crank shaft 5/1/14 Thrust shaft 3/12/13 Tunnel shafts 7/1/14 Screw shaft 3/2/14 Propeller 16/2/14
Stern tube 16/2/14 Steam pipes tested 5/2/14 Engine and boiler seatings 23/2/14 Engines holding down bolts 6/4/14
Completion of pumping arrangements 6/5/14 Boilers fixed 6/4/14 Engines tried under steam 27/4/14
Main boiler safety valves adjusted 27/4/14 Thickness of adjusting washers S. 3 5/8" P. 5 5/8" C. 5 1/2" P. 1 1/2" P. P. 9 1/6" 5 9/16"

Material of Crank shaft steel Identification Mark on Do. 30/1/14 Material of Thrust shaft steel Identification Mark on Do. 3/12/13

Material of Tunnel shafts steel Identification Marks on Do. 13/1/14 Material of Screw shafts steel Identification Marks on Do. 4/2/14

Material of Steam Pipes Lap welded iron Test pressure 660 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 no If so, state name of vessel ✓

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

The machinery of this vessel has been built under special survey, the materials used are good, and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been tried under full power. In my opinion this vessel is eligible for the record of L.M.C. 5, 14.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 5. 14.

F.D.

J.W.D. 18/5/14

P.R.

Charles Cooper

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

The amount of Entry Fee ... £ 3 : : When applied for, MAY 15 1914
Special ... £ 53 : 4 :
Donkey Boiler Fee ... £ 2 : 2 :
Travelling Expenses (if any) £ : : When received, 18/5/14

Committee's Minute FRI. MAY. 22. 1914

Assigned + L.M.C. 5. 14 L.S.

MACHINERY CERTIFICATE WRITTEN.



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