

# REPORT ON MACHINERY.

Received at London Office FRI. NOV. 13. 1914

Date of writing Report 9<sup>th</sup> Nov 1914 Date First Survey 28<sup>th</sup> May 1914 Last Survey 4<sup>th</sup> Nov 1914 Port of NEWCASTLE-ON-TYNE

in Survey held at Newcastle on the Machinery of the S.S. Stockwell

Builder Douglas Built at Sunderland By whom built J. Laing & Sons Ltd When built 1914

Engines made at Newcastle By whom made N.E. Marine Eng. Co. Ltd when made 1914

Boilers made at " By whom made " when made 1914

Registered Horse Power 664 Owners Well Line Ltd. Port belonging to Newcastle

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 25 1/2" 36" 52 1/2" 76" Length of Stroke 54" Revs. per minute 72 Dia. of Screw shaft 15 1/2" Material of screw shaft Steel

Is the after end of the liner made water tight Yes If the liner is in more than one length are the joints burned 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

Length of stern bush 5'-6"

Dia. of Tunnel shaft 14 1/2" Dia. of Crank shaft journals 14 1/8" Dia. of Crank pin 15 3/8" Size of Crank webs 22 1/2" x 9 1/2" Dia. of thrust shaft under 15 3/8" Dia. of screw 18'-6" Pitch of Screw 18'-6" No. of Blades 4 State whether moveable Yes Total surface 103 sq ft

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" 12" x 6" 10" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps 2 of 3 1/2" in each hold

Engine Room 5 of 3 1/2" In Holds, &c. 2 of 3 1/2" in each hold

No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size 3 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 none How are they protected Yes

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 28-8-14 of Stern Tube 28-8-14 Screw shaft and Propeller 13/10/14

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

**BOILERS, &c.**—(Letter for record 5) Manufacturers of Steel J. Spencer & Sons

Total Heating Surface of Boilers 9657 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 21 & 28/9/14 No. of Certificate 8703 & 8706

Can each boiler be worked separately Yes Area of fire grate in each boiler 71.5 sq ft 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'-2 1/2" Length 12'-6" Material of shell plates Steel

Thickness 1 1/2" Range of tensile strength 28 3/4-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. lap

long. seams z. r. d. b. Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 10 1/2" Lap of plates or width of butt straps 20 1/2"

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 Doughtons Material Steel Outside diameter 43"

Length of plain part top 78" Thickness of plates bottom 78" Description of longitudinal joint welded No. of strengthening rings 1

Working pressure of furnace by the rules 234 lbs Combustion chamber plates: Material Steel Thickness: Sides 2 3/32" Back 2 3/32" Top 2 3/32" Bottom 1 1/8"

Pitch of stays to ditto: Sides 9 1/2" x 8 1/2" Back 9 1/2" x 8 1/2" Top 9 1/2" x 8 1/2" 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 1 1/32" Pitch of stays 24 1/2" x 17 1/2" How are stays secured d. n. w. Working pressure by rules 222 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 1 1/32" Material of Lower back plate Steel Thickness 3/32" Greatest pitch of stays 14 1/2" x 8 1/2" Working pressure of plate by rules 229 lbs

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates Steel Thickness: Front 1 1/32" Back 1 3/16" Mean pitch of stays 7 1/2" x 7 1/2"

Pitch across wide water spaces 14 1/2" Working pressures by rules 220 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/8" x 2" Length as per rule 36" Distance apart 9 1/2" Number and pitch of stays in each 3 of 8 1/2"

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 Yes

Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes

If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes

Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes



IS A DONKEY BOILER FITTED? Yes

If so, is a report now forwarded? yes

SPARE GEAR. State the articles supplied:—

Five 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, one propeller shaft 2 propeller blades 2 top half eccentric straps, 1 slide rod & minor details.

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING Co., LTD.

J. J. Harrison Manufacturer.

Dates of Survey while building { During progress of work in shops - - - 1914 May 28 Jul 6 7 10 14 16 17 22 24 27 28 29 30 31 Aug 5 7 11 14 17 18 19 20 21 25 31 Sep 1 7 14 21 23 28 30 Oct 2 7 12 13 23 24 Nov 2 4  
During erection on board vessel - - -  
Total No. of visits 41 +

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 7/7/14 Slides 24/8/14 Covers 12/10/14 Pistons 12/10/14 Rods 28/7/14  
Connecting rods 28/7/14 Crank shaft 14/7/14 Thrust shaft 17/7/14 Tunnel shafts 10/7/14 Screw shaft 17/7/14 Propeller 26/8/14  
Stern tube 31/8/14 Steam pipes tested 17/7/14 Engine and boiler seatings 12/10/14 Engines holding down bolts 26/10/14  
Completion of pumping arrangements 4/11/14 Boilers fixed 26/10/14 Engines tried under steam 4/11/14  
Main boiler safety valves adjusted 4/11/14 Thickness of adjusting washers PP 1 3/8 S 7/8 C.P. 1 5/8 S 7/8 S P 7/8 S 3/8  
Material of Crank shaft Steel Identification Mark on Do. 30/7/14 Material of Thrust shaft Steel Identification Mark on Do. 17/7/14  
Material of Tunnel shafts Steel Identification Marks on Do. 27/7/14 Material of Screw shafts Steel Identification Marks on Do. 24/7/14  
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 Yes

If so, state name of vessel S.S. "Springwell"

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. 11, 14.

It is submitted that this vessel is eligible for

THE RECORD + L.M.C. 11, 14. F.D.

The amount of Entry Fee ... £ 3:

Special ... £ 53: 4

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for,

NOV 12 1914

When received,

4/12/14

Committee's Minute ... FRIDEC 4 1914

Assigned ... + L.M.C. 11, 14

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



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