

Rpt. 4.

# REPORT ON MACHINERY.

No. No. 53,033  
Null - 19,076

Port of Newcastle, N. Zone

Received at London Office

SAT. 15 JUN 1907

No. in Survey held at Newcastle

Date, first Survey Feb. 25

Last Survey 31 May 1907

Reg. Book.

42 on the Sheel S. K. "Orphesia"

(Number of Visits 24)

Master

Built at Gole

By whom built Gole S. B. & Rep. C. L.

Tons { Gross 273  
Net 98  
When built 1907

Engines made at North Shields

By whom made Sheel Eng. & D. D. Co.

when made 1907

Boilers made at Newcastle

By whom made R. Stephenson & Co. L.

when made 1907

Registered Horse Power

Owners Stavetta Steam Fishing Co. L.

Port belonging to Fleetwood

Nom. Horse Power as per Section 28 85.18

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 *13. 22. 36* Length of Stroke *26* Revs. per minute *110* Dia. of Screw shaft *7.75* Material of screw shaft *W. Iron*  
 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 *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* If two  
 liners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *3' 0"*  
 Dia. of Tunnel shaft *7.07* Dia. of Crank shaft journals *7.75* Dia. of Crank pin *4 1/2* Size of Crank webs *11 x 4 3/8* Dia. of thrust shaft under  
 collars *7 1/2* Dia. of screw *9' 9"* Pitch of Screw *10' 3" mean* No. of Blades *4* State whether moveable *No* Total surface *30 3/4 sq ft*  
 No. of Feed pumps *2* Diameter of ditto *2 1/2* Stroke *12* Can one be overhauled while the other is at work *Yes*  
 No. of Bilge pumps *2* Diameter of ditto *2 1/2* Stroke *12* Can one be overhauled while the other is at work *Yes*  
 No. of Donkey Engines *1* Sizes of Pumps *Duplex 5 1/4 x 3 1/2 x 5"* No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room *2 of 2" dia* In Holds, &c. *1 of 2" to Change box in Stokehold leading to 3 of 2" dia to Slush wells*  
 No. of Bilge Injections *1* sizes *3 1/2* Connected to condenser, or to circulating pump *cp.* Is a separate Donkey Suction fitted in Engine room & size *Yes. 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 *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 *hold suction slush steam exhaust* How are they protected *hold 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 *21. 23. 24. May 07* of Stern Tube *24. May 07* Screw shaft and Propeller *24. May 07*  
 Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*

**BOILERS, &c.**—(Letter for record *S*) Manufacturers of Steel *J. Spencer & Son*  
 Total Heating Surface of Boilers *1516 sq ft* Is Forced Draft fitted *No* No. and Description of Boilers *The Cyl. Mult. S. Ended*  
 Working Pressure *180* Tested by hydraulic pressure to *360* Date of test *15-5-07* No. of Certificate *7484*  
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *50 sq ft* No. and Description of Safety Valves to  
 each boiler *two direct Spring* Area of each valve *4.9 sq in* Pressure to which they are adjusted *185 lb* Are they fitted with easing gear *Yes*  
 Smallest distance between boilers or uptakes and bunkers or woodwork *10"* Mean dia. of boilers *13-0* Length *10-6* Material of shell plates *S*  
 Thickness *1 3/32* Range of tensile strength *28-32* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *d lap*  
 long. seams *d shap* Diameter of rivet holes in long. seams *1 1/8* Pitch of rivets *7 1/2* Lap of plates or width of butt straps *16 3/8*  
 Per centages of strength of longitudinal joint rivets *90* Working pressure of shell by rules *186* Size of manhole in shell *16 x 12*  
 plate *85* Size of compensating ring *7 x 1 3/32* No. and Description of Furnaces in each boiler *3 Plain* Material *S* Outside diameter *39*  
 Length of plain part top *73* Thickness of plates crown *3/4* Description of longitudinal joint *d shap* No. of strengthening rings *half*  
 bottom *69* bottom *3/4* Working pressure of furnace by the rules *194* Combustion chamber plates: Material *S* Thickness: Sides *2 1/32* Back *2 1/32* Top *2 1/32* Bottom *15/16*  
 Pitch of stays to ditto: Sides *9 3/4 x 8* Back *8 3/4 x 8 3/4* Top *9 3/4 x 8* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *187*  
 Material of stays *S* Diameter at smallest part *1.73* Area supported by each stay *78* Working pressure by rules *181* End plates in steam space:  
 Material *S* Thickness *1 3/32* Pitch of stays *16 x 18 1/2* How are stays secured *d & w* Working pressure by rules *194* Material of stays *S*  
 Diameter at smallest part *5-56* Area supported by each stay *292* Working pressure by rules *190* Material of Front plates at bottom *S*  
 Thickness *1* Material of Lower back plate *S* Thickness *15/16* Greatest pitch of stays *as per plan* Working pressure of plate by rules *180*  
 Diameter of tubes *3 1/2* Pitch of tubes *4 3/4 x 4 3/4* Material of tube plates *S* Thickness: Front *1* Back *13/16* Mean pitch of stays *10 1/16*  
 Pitch across wide water spaces *14* Working pressures by rules *182* Girders to Chamber tops: Material *S* Depth and  
 thickness of girder at centre *9 x 15 1/8* Length as per rule *32 1/2* Distance apart *8* Number and pitch of stays in each *2-9 3/4*  
 Working pressure by rules *219* Superheater or Steam chest; how connected to boiler *Yes* Can the superheater be shut off and the boiler worked  
 separately *Yes* 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 *-*

If not, state whether, and when, one will be sent? Is a Report also sent on the hull of the ship?

L700-118M

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. \_\_\_\_\_ Description *None fitted*

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 \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_

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 top end bolts & nuts, two bottom end bolts & nuts, Spare coupling bolts & nuts, two bed plate bolts & nuts, assorted iron bolts & nuts, Spare feed & Relief pump Valves & seats, Spare air pump Valves, Spare propeller*

The foregoing is a correct description,  
 For THE SHIELDS ENGINEERING & DRY DOCK CO., LIMITED, Manufacturer.  
 Alex Melrose

For ROBERT STEPHENSON & CO., LIMITED  
 W. H. Thompson  
 SECRETARY

Dates of Survey while building  
 During progress of work in shops - 1907. May 6, 8, 15, 21, 22, 23, 24, 25, 29, 31, 31.  
 During erection on board vessel - 1907. Feb. 25, Mar. 11, 12, 19, 26, Apr. 11, 13, 19, 26, May 9, 13, 15.  
 Total No. of visits 24. Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders 15.5.07 Slides 15.5.07 Covers 15.5.07 Pistons 15.5.07 Rods 15.5.07  
 Connecting rods 15.5.07 Crank shaft *light duty* Thrust shaft *70yd* Tunnel shafts *70yd* Screw shaft *70yd* Propeller 23.5.07  
 Stern tube 24.5.07 Steam pipes tested 29.5.07 Engine and boiler seatings 28.5.07 Engines holding down bolts 28.5.07  
 Completion of pumping arrangements 31.5.07 Boilers fixed 28.5.07 Engines tried under steam 31.5.07  
 Main boiler safety valves adjusted 31.5.07 Thickness of adjusting washers P 13/32 S 2/16  
 Material of Crank shaft *light steel* Identification Mark on Do. 1853 A.T.C. Material of Thrust shaft *Scrap iron* Identification Mark on Do. *1853 A.T.C.*  
 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *Scrap iron* Identification Marks on Do. *1853 A.T.C.*  
 Material of Steam Pipes *Copper* Test pressure 360 lb

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*The material & workmanship is good.  
 The Machinery has been built under special Survey & is eligible in our opinion for classification & the record. + I.M.C. 5-07*

It is submitted that  
 this vessel is eligible for  
 THE RECORD. + L.M.C. 5.07

J.R.R.  
 15/6/07  
 15.6.07

The amount of Entry Fee.. £ 1 : : :  
 Special .. .. £ 12 : 15 : :  
 Donkey Boiler Fee .. .. £ : : :  
 Travelling Expenses (if any) £ : : :  
 When applied for, - 6 JUN 1907  
 When received, 1876/07

Leonard & Shallocks  
 H. Heck  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned

+ L.M.C. 5.07

MACHINERY CERTIFICATE WRITTEN



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Certificate (if required) to be sent to the Registrar of Shipping (The Surveyors are requested not to write on or below the space for Committee's Minute.)