

# REPORT ON MACHINERY.

No. 53304

THUR. 1 AUG 1907

Port of Newcastle

Received at London Office

No. in Survey held at

Date, first Survey Jan 29

Last Survey 26 July 1907

Book.

(Number of Visits 20)

on the S/S Nabinga

Tons Gross 4657  
Net 2925

Master

Built at Newcastle. By whom built Armstrong Whitworth & Co. when made 1907.

Engines made at

Newcastle. By whom made W. & M. Lang 60 1/2 when made 1907.

Wheels made at

Newcastle. By whom made W. & M. Lang 60 1/2 when made 1907.

Registered Horse Power

Owners Bucknall Bros

Port belonging to London

Net Horse Power as per Section 28 477

Is Refrigerating Machinery fitted for cargo purposes no.

Is Electric Light fitted yes

## ENGINES, &c.—Description of Engines

No. of Cylinders 3 No. of Cranks 3

No. of Cylinders 27. 45. 75 Length of Stroke 48 Revs. per minute 67

Dia. of Screw shaft as per rule 14.9 Material of screw shaft as fitted 15.78

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

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

Length of stern bush 5' 6"

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

Dia. of Tunnel shaft as per rule 13.38 Dia. of Crank shaft journals as per rule 14.07

Dia. of Crank pin 14.2 Size of Crank webs 28 1/2 x 9 1/2 Dia. of thrust shaft under

No. of Feed pumps 2 No. of Bilge pumps 2

No. of Blades 4 State whether moveable M Total surface 100 sq

No. of Donkey Engines 3

Can one be overhauled while the other is at work yes

In Engine Room 4 of 3 1/2

Can one be overhauled while the other is at work yes

No. of Bilge Injections 1 sizes 6

In Holds, &c. Nos. 1, 2, 3 two 3 1/2

Are all the bilge suction pipes fitted with roses yes

Is a separate Donkey Suction fitted in Engine room & size 3 1/2"

Are all connections with the sea direct on the skin of the ship yes

Are the roses in Engine room always accessible yes

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes

Are the sluices on Engine room bulkheads always accessible

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes

Are the Discharge Pipes above or below the deep water line above

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 25.5.07

of Stern Tube 18.6.07 Screw shaft and Propeller 18.6.07.

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 Spencer & Sons Ltd.

Total Heating Surface of Boilers 6492

Is Forced Draft fitted yes No. and Description of Boilers 3 S.E.

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 Date of test 18/6/07 No. of Certificate 7514

Can each boiler be worked separately yes

Area of fire grate in each boiler 57 3/4 sq

each boiler 2 spring

Area of each valve 9.6" Pressure to which they are adjusted 185

Smallest distance between boilers or uptakes and bunkers or woodwork 2.6"

Mean dia. of boilers 14.6" Length 11.98"

Thickness 13 1/2 Range of tensile strength 28 3/4 32

Are the shell plates welded or flanged ends Descrip. of riveting: cir. seams a.r.lap

long. seams a.b.u.H.S.D.S Diameter of rivet holes in long. seams 1 5/16

Pitch of rivets 8 5/8 Lap of plates or width of butt straps 19"

Per centages of strength of longitudinal joint rivets 91.6

Working pressure of shell by rules 206

Size of compensating ring flanged

No. and Description of Furnaces in each boiler 3 Deag

Length of plain part top bottom

Thickness of plates crown bottom 37 64

Working pressure of furnace by the rules 198

Combustion chamber plates: Material S Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 7/8

Pitch of stays to ditto: Sides 8 x 8 Back 8 x 8 Top 8 x 8

If stays are fitted with nuts or riveted heads nuts Working pressure by rules 210

Material of stays S

Area Diameter at smallest part 1.44 Area supported by each stay 64

Material S Thickness 1 7/16

Pitch of stays 20 2 x 19 8 How are stays secured a nuts Working pressure by rules 244

Area Diameter at smallest part 8.48

Area supported by each stay 373 Working pressure of plate by rules 220

Thickness 7/8 Material of Lower back plate S

Greatest pitch of stays 14 1/2 Working pressure of flue plates by rules 220

Diameter of tubes 2.2 Pitch of tubes 3 3/4 x 3 3/4

Material of tube plates S Thickness: Front 7/8 Back 13/16 Mean pitch of stays 7 1/2

Pitch across wide water spaces 14 1/2

Working pressures by rules 264 Girders to Chamber tops: Material S

thickness of girder at centre 9 1/4 x 1 1/2

Length as per rule 32 1/2 Distance apart 8

Working pressure by rules 198

Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately

Lloyd's Register Foundation

VERTICAL DONKEY BOILER— Manufacturers of Steel *None*

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:— 1 Set connecting rod bolts & nuts, two main bearing bolts & nuts, 1 set coupling bolts & nuts, 1 set duplex feed pump valves, 1 set bilge pump valves, propeller shaft, nut bolts assorted iron.

The foregoing is a correct description,  
 NORTH EASTERN MARINE ENGINEERING Co., LTD. Manufacturer.

*J. J. Harrison*  
 Dates of Survey while building: During progress of work in shops— Assit. Secretary. 1907 Jan 29, Feb 11, Mar 20, 28, Apr 8, 10, 23, 25, 29, May 6, 15, 24, 25, 27, June 6, 10, 11, 12, 13, 14, 17, 18, 19, 20  
 During erection on board vessel— 25 July 3, 10, 16, 24, 26  
 Total No. of visits 30

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts— Cylinders 6/5/07 Slides 6/5/07 Covers 6.5.07 Pistons 6/5/07 Rods 6/5/07  
 Connecting rods 9.4.07, Crank shaft 21.9.07, Thrust shaft 29.1.07, Tunnel shafts 11.2.07, Screw shaft 26.3.07, Propeller 24.5.07  
 Stern tube 24.5.07, Steam pipes tested 9 April, Engine and boiler seatings 25/5/07, Engines holding down bolts 17/6/07  
 Completion of pumping arrangements 26.7.07 Boilers fixed 18/6/07, Engines tried under steam 10 July  
 Main boiler safety valves adjusted 10 July, Thickness of adjusting washers PB. 1/8 S. CB 1/8 S 3/8 SB 1/8 S 7/16  
 Material of Crank shaft R.T.F.S. Identification Mark on Do R.T.T. Material of Thrust shaft J. Identification Mark on Do R.T.F.  
 Material of Tunnel shafts J. Identification Marks on Do R.T.T. Material of Screw shafts J. Identification Marks on Do R.T.F.  
 Material of Steam Pipes W.D. Test pressure 540.

General Remarks (State quality of workmanship, opinions as to class, &c. Machinery and boilers constructed under Special Survey, materials and workmanship good. Engines and boilers examined under full steam & found satisfactory. In my opinion this vessel is eligible for record of L.M.C.

It is submitted that this vessel is eligible for THE RECORD LMC 7-07 ELEC LIGHT

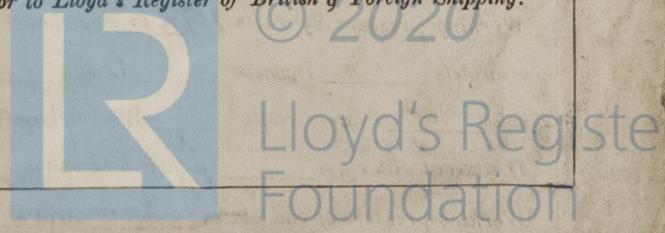
The amount of Entry Fee £ 5 : : When applied for, 31 JUL 1907  
 ... £ 43 : 17 : :  
 ... £ : : :  
 Travelling expenses (if any) £ : : :  
 When received, 2-8-07

Committee's Minute FRI. 2 AUG 1907  
 Assigned

*J. J. Harrison*  
 1.8.07  
 J. J. Harrison  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Perfectly safe - on - 17/10/07

Certificate (if required) to be sent to space for Committee's Minute.



MACHINERY CERTIFICATE WRITTEN.