

# REPORT ON MACHINERY.

No. 22264

Port of Sunderland

Received at London Office

MAY 19 1905

No. in Survey held at Sunderland

Date, first Survey 24th Nov. 1904 Last Survey 13th May 1905

Reg. Book. on the S. S. Chr. Gylstorff

(Number of Visits 39)

Master A. H. Nielsen Built at Sunderland By whom built Sunderland Shipbuilding Co. Ltd When built 1905

Tons { Gross 817  
Net 495

Engines made at Sunderland By whom made North Eastern Marine Engineering Co. Ltd when made 1905

Boilers made at Sunderland By whom made North Eastern Marine Engineering Co. Ltd when made 1905

Registered Horse Power \_\_\_\_\_ Owners Dampskib Actieselskabet Progress Port belonging to Copenhagen

Nom. Horse Power as per Section 28 123 Is Refrigerating Machinery fitted

Is Electric Light fitted

**ENGINES, &c.**—Description of Engines Inverted Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 16 1/2", 26", 43" Length of Stroke 30" Revs. per minute 92 Dia. of Screw shaft as per rule 9.90" Material of Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner fitted Is the after end of the liner made water tight in the propeller boss  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 4'-3"

Dia. of Tunnel shaft as per rule 8.15" Dia. of Crank shaft journals as per rule 8.55" Dia. of Crank pin 8.625" Size of Crank webs 14x5 1/2" Dia. of thrust shaft under collars 8.625" Dia. of screw 12'-0" Pitch of screw 11'-6" No. of blades 4 State whether moveable no Total surface 43 #

No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 15" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 6x7x9" 4 5x3x4 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2 of 2" In Holds, &c. 2 of 2" each + 2" in after well

No. of bilge injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump pump Is a separate donkey suction fitted in Engine room & size Yes - 2 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

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock new Is the screw shaft tunnel watertight Yes

Is it fitted with a watertight door Yes worked from upper platform

**BOILERS, &c.**— (Letter for record S) Total Heating Surface of Boilers 2064 # Is forced draft fitted no

No. and Description of Boilers 2 single ended, cylindrical multi Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs

Date of test 15.3.05 Can each boiler be worked separately Yes Area of fire grate in each boiler 30 # No. and Description of safety valves to each boiler 2 - spring Area of each valve 3.98 # Pressure to which they are adjusted 185 for 180 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 10-10 1/2" Length 10'-0" Material of shell plates steel

Thickness 7/8" Range of tensile strength 29/32 Are they welded or flanged no Descrip. of riveting: cir. seams d.r. lap long. seams L.r. double butt strap

Diameter of rivet holes in long. seams 1" Pitch of rivets 1 1/2" Lap of plates or width of butt straps 15 1/4"

Per centages of strength of longitudinal joint rivets 89 Working pressure of shell by rules 180 lbs Size of manhole in shell 16x12"

Size of compensating ring 7x7 1/8" No. and Description of Furnaces in each boiler 2 Deighton Material steel Outside diameter 40"

Length of plain part top Thickness of plates bottom 1 1/2" Description of longitudinal joint weld No. of strengthening rings

Working pressure of furnace by the rules 188.8 Combustion chamber plates: Material steel Thickness: Sides 11/16" Back 25/32" Top 11/16" Bottom 7/8"

Pitch of stays to ditto: Sides 10 3/8" x 8 1/2" Back 10 1/2" x 11 1/2" Top 10" x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180-2 lbs

Material of stays steel Diameter at smallest part 2.43 # Area supported by each stay 116.8 # Working pressure by rules 187.2 lbs End plates in steam space: Material steel Thickness 1 1/2" Pitch of stays 18 3/4" x 14" How are stays secured d. nuts + wash Working pressure by rules 183.9 lbs Material of stays steel

Diameter at smallest part 5.05 # Area supported by each stay 262.5 # Working pressure by rules 192.7 Material of Front plates at bottom steel

Thickness 13/16" Material of Lower back plate steel Thickness 15/16" Greatest pitch of stays 14 1/2" x 11 1/2" Working pressure of plate by rules 181.8 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 3/4" Material of tube plates steel Thickness: Front 13/16" Back 12/16" Mean pitch of stays 9x8 3/4"

Pitch across wide water spaces 14 1/2" Working pressures by rules 215.7 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 7 1/2" x 1 3/4" Length as per rule 24.5" Distance apart 10" Number and pitch of Stays in each 2 - 8 1/2"

Working pressure by rules 187 lbs Superheater or Steam chest; how connected to boiler  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



**DONKEY BOILER**— No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_

No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ 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 \_\_\_\_\_ 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 \_\_\_\_\_

Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— *2 top end, 2 bottom end, 2 main bearing & 1 set of coupling bolts, 1 set of feed and bilge pump valves, bolts & nuts assorted & iron of sizes, 1 spare propeller, 1 pair bottom end bearing, 1 eccentric strap, 1 air pump rod, 1 circulating pump rod*

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

*Walter Weathering*

Dates of Survey while building

During progress of work in shops -	1904: Nov: 24, Dec: 20, 28, -	1905: Jan: 5, 9, 11, 12, 14, 17, 20, 23, 25, 31, Feb: 1, 3,
	During erection on board vessel -	6, 8, 11, 13, 14, 17, 21, 24, 27, Mar: 1, 3, 6, 7, 9, 15, 17, 20, 22, 23, May: 1, 3, 8, 11, 13.
	Total No. of visits	39

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

" " " donkey " " " *Yes*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The Machinery for this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the main steam pipes have been tested to twice the working pressure & proved satisfactory, the Engines have been tried under steam & worked well*)

*I beg to recommend that this vessel in my opinion is eligible to have the record of L.M.C. 5.05 in the Register Book*

**It is submitted that this vessel is eligible for THE RECORD L.M.C. 5.05.**

*W.S.*  
 19.5.05

*K.W. Coomber*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee. . . . .	£ 2 :	When applied for,	18.5.05
Special . . . . .	£ 18 :	When received,	25.5.05
Donkey Boiler Fee . . . . .	£ :		
Travelling Expenses (if any) £ :			

TUES. 23 MAY 1905

Committee's Minute  
 Assigned

+ L.M.C. 5.05

MACHINERY CERTIFICATE WRITTEN.



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