

# REPORT ON MACHINERY.

Port of Belfast

Received at London Office FEB. 27 1906

No. in Survey held at Belfast Date, first Survey \_\_\_\_\_ Last Survey 22 2 19

Reg. Book. \_\_\_\_\_ (Number of Visits \_\_\_\_\_)

on the S.S. "Nieuw Amsterdam" Tons { Gross 16913 Net 15887

Master \_\_\_\_\_ Built at Belfast By whom built Harland & Wolff L<sup>o</sup> When built 1906

Engines made at Belfast By whom made Harland & Wolff L<sup>o</sup> when made 1906

Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made \_\_\_\_\_

Registered Horse Power \_\_\_\_\_ Owners Netherlands-American Steam Navigation Co. Port belonging to Rotterdam

Nom. Horse Power as per Section 28 1767 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines Two Screw Quadruple Expansion of Cylinders 8 No. of Cranks 8  
 Dia. of Cylinders 29"-4 1/2"-61"-87" Length of Stroke 60 Revs. per minute 76 Dia. of Screw shaft as per rule 17.23 Material of screw shaft Steel  
 as fitted 17.75  
 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 Yes If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 73"  
 Dia. of Tunnel shaft as per rule 15.92 Dia. of Crank shaft journals as per rule 16.72 Dia. of Crank pin 18" Size of Crank webs 24" x 12" of thrust shaft under collars 17 1/4" Dia. of screw 18'-6" Pitch of screw 23'-0" No. of blades 3 State whether moceable Yes Total surface 84 1/2 sq ft.  
 No. of Feed pumps \_\_\_\_\_ Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work ✓  
 No. of Bilge pumps 1 each engine Diameter of ditto 6" Stroke 30" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines \_\_\_\_\_ Sizes of \_\_\_\_\_ No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 8-3 1/2" 4-3" 4-2 1/2" In Holds, &c. 14-3 1/2" 8-3" 1-2 1/2"

No. of bilge injections 2 sizes 11" Connected to condenser, or to circulating pump Pump Is a separate donkey suction fitted in Engine room & size Yes-4"  
 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 Below  
 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 Tank & Bilge suction How are they protected Plated tunnel  
 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 Before launch Is screw shaft tunnel watertight stated to be  
 Is it fitted with a watertight door Yes worked from Above main deck level

**BOILERS, &c.**— (Letter for record S) Total Heating Surface of Boilers 31801 sq ft Is forced draft fitted No  
 No. and Description of Boilers Two - Double End Cylindrical Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs  
 Date of test 7-7-05 Can each boiler be worked separately Yes Area of fire grate in each boiler 118 sq ft No. and Description of safety valves to each boiler 4 - Direct Spring Area of each valve 10.32 sq in Pressure to which they are adjusted 215 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork About 4 ft Mean dia. of boilers 15'-0" Length 19'-6" Material of shell plates Steel  
 Thickness 1 1/2" Range of tensile strength 29-32 Are they welded or flanged No Descrip. of riveting: cir. seams Lap Rivet long. seams Butt Lap Rivet  
 Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10" Lap of plates or width of butt straps 22 3/4"  
 Per centages of strength of longitudinal joint rivets 93.4 Working pressure of shell by rules 247 lbs Size of manhole in shell 16" x 12"  
 plate 84.0  
 Size of compensating ring McNeill's No. and Description of Furnaces in each boiler 6 - Morris in Material Steel Outside diameter 47 1/2"  
 Length of plain part top \_\_\_\_\_ bottom 6" Thickness of plates crown 3 1/4" Description of longitudinal joint Weld No. of strengthening rings 37s on 8.0. bottom  
 Working pressure of furnace by the rules 241 lbs Combustion chamber plates: Material Steel Thickness: Sides 5" Back ✓ Top 3 1/2" Bottom 2"  
 Pitch of stays to ditto: Sides 8" x 7 1/2" Back ✓ Top 8 1/2" x 7 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 224 lbs  
 Material of stay Steel Diameter at smallest part 1 1/2" x 1 1/8" Area supported by each stay 6 1/8" Working pressure by rules 251 lbs End plates in steam space: Material Steel Thickness 1 1/2" Pitch of stays 18" x 1 1/2" How are stays secured Nuts & Washers Working pressure by rules 219 lbs Material of stays Steel  
 Diameter at smallest part 3" Area supported by each stay 288 sq in Working pressure by rules 245 lbs Material of Front plates at bottom Steel  
 Thickness 1 1/2" x 1" Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓  
 Diameter of tubes 2 1/4" Pitch of tubes 4" x 4" Material of tube plate Steel Thickness: Front 5" Back 4" Mean pitch of stays 8" x 8"  
 Pitch across wide water spaces 14" Working pressures by rules 337 lbs with 8" double Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 7" x (8" x 2) Length as per rule 46 1/2" Distance apart 8 1/2" Number and pitch of Stays in each 5-7 1/2"  
 Working pressure by rules 277 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. *100* 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 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:—

*See other sheet.*

The foregoing is a correct description,

*Harland & Wolff* Manufacturer.

Dates of Survey  
 During progress of work in shops—  
 During erection on board vessel—  
 Total No. of visits—  
 1 2 1

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

“ “ “ donkey “ “ “

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

*The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The materials and the workmanship throughout are of good description, and on trial under steam in Belfast Lough, the machinery worked satisfactorily. In my opinion, it is eligible for record of +L.M.C. 2-06 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD *L.M.C. 2-06. FLEC LIGHT.*

*ml*  
*27.2.06*

The amount of Entry Fee.. £ *3* - :  
 Special .. £ *108* 7 :  
 Donkey Boiler Fee .. £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, *20/1/06*  
 When received, *27/2/06*

*R. J. Dewar*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

*TUES. 6 MAR 1906*

*TUES. 12 JUN 1906 FRI. 15 JUN 1906*

Assigned

*+L.M.C. 2-06*

*TUES. 3 JUL 1906*

*FRI. 31 JUL 1906*

*TUES. 4 SEP 1906*

MACHINERY CERTIFICATE  
 WRITTEN.

*FRI. FEB 22 1907  
 TUES. JUL 23 1907*

Rpt. 9a.

Port of *Belfast* Continuation of Report No. *6031* dated *26th February* on the

*H.P. New Amsterdam*

*Donkey Pumps.*

*W. Gen. Feed: - 15 1/2 x 14 1/2 x 26 Double*

*General: - 10 1/2 x 7 x 12 Duplex.*

*- 10 1/2 x 7 x 12*

*- 10 1/2 x 7 x 12*

*Ballast: - 14 x 15 x 14 Westminster*

*- 12 x 10 x 14*

*Fire Pump: - 8 x 9 1/2 x 10 Duplex*

*- 8 x 9 1/2 x 10*

*F. Water: - 5 1/2 x 4 x 5*

*- 5 1/2 x 4 x 5*

*Centrif. Circulating: - 16 diam*

*- 16*

*(for Wash Condenser) - 8*

*Aux. air Pump do: - 9 x 15 x 12 Meir.*

*Spare Gear.*

*2 Man. Bronze Propeller Blades*

*Propeller Shaft.*

*Pair crank pin brasses*

*Air pump rod, bucket & guards, leak & foot valves*

*Centrifugal Impeller & spindle*

*H. P. & L. P. valve spindles & neck bushes.*

*Eccentric strap complete*

*Let's piston rings for H. P. & L. P.*

*Pair top end brasses for connecting rods.*

*Link block & brasses.*

*Let's rings for H. P. & L. P. piston valves.*

*Let's feed & delivery valves for Meir's Pumps.*

*Duplex Feed*

*Spare gear for Centrif. Pumps & Engines*

*Cylinder escape valves & springs*

*Spare gear for machinery generally*

*240 plain tubes for boilers*

*5 Safety valve & springs*

*Feed escape valve & springs*

*Yank ring & flank bolts & studs set*

*Warm & warm shaft complete for steering engine*

*60 Condenser tubes, 120 fenders, set*

*and all gear to air Requirements additional*

*R. J. Dewar*



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