REPORT ON MACHINERY. 9271

FRIDAY 16 AUGUST 1

Port of Glasgow Received at London Office 18

No. 9241 No. in Reg. Book. Survey held at Glasgow Date, first Survey 13th to 17th May Last Survey 5th July 1889. Number of Visits 10

502 on the Main boiler of S.S. "Loch Nell" Tons 120 gross

Master Crawford Built at Paisley By whom built H. McIntyre & Co When built 1877

Engines made at Glasgow By whom made Muir & Houston when made 1877

Boilers made at Glasgow By whom made Lindsay Burnet & Co when made 7, 1889

Registered Horse Power 30 Owners J. G. Stewart Port belonging to Glasgow

ENGINES, &c.—

Description of Engines

Diameter of Cylinders Length of Stroke No. of Rev. per minute Point of Cut off, High Pressure Low Pressure

Diameter of Screw shaft Diam. of Tunnel shaft Diam. of Crank shaft journals Diam. of Crank pin size of Crank webs

Diameter of screw Pitch of screw No. of blades state whether moveable total surface

No. of Feed pumps diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps diameter of ditto Stroke Can one be overhauled while the other is at work

Where do they pump from

No. of Donkey Engines Size of Pumps Where do they pump from

Are all the bilge suction pipes fitted with roses Are the roses always accessible Are the sluices on Engine room bulkheads always accessible

No. of bilge injections and sizes Are they connected to condenser, or to circulating pump

How are the pumps worked

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

Is the screw shaft tunnel watertight and fitted with a sluice door worked from

BOILERS, &c.—

Number of Boilers one Description Cylin Multitu Whether Steel or Iron Steel

Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 17th June 1889

Description of superheating apparatus or steam chest dome

Can each boiler be worked separately ✓ Can the superheater be shut off and the boiler worked separately no

No. of square feet of fire grate surface in each boiler 23·75 Description of safety valves direct spring No. to each boiler two

Area of each valve 6·5" Are they fitted with easing gear yes No. of safety valves to superheater none area of each valve ✓

Are they fitted with easing gear ✓ Smallest distance between boilers and bunkers or woodwork 6" Diameter of boilers 8'. 0"

Length of boilers 7'. 9" description of riveting of shell long. seams treb lap circum. seams doub lap Thickness of shell plates 1/2"

Diameter of rivet holes 7/8" whether punched or drilled drilled pitch of rivets 3 7/8" Lap of plating 6 1/2"

Per centage of strength of longitudinal joint 77·4" working pressure of shell by rules 86·6 lbs size of manholes in shell 12" × 16"

Size of compensating rings 5 1/2 × No. of Furnaces in each boiler two

Outside diameter 2'. 6 7/8" length, top 5'. 0" bottom 5'. 0 thickness of plates 7/16" description of joint welded if rings are fitted no

Greatest length between rings ✓ working pressure of furnace by the rules 111·8 combustion chamber plating, thickness, sides 7/16" back 7/16" top 7/16"

Pitch of stays to ditto, sides 8" back 8" top 8"×7" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 84 lbs Diameter of stays at smallest part 1" working pressure of ditto by rules 123 lbs d plates in steam space, thickness 11/16"

Pitch of stays to ditto 13" × 18" how stays are secured nuts working pressure by rules 101·3 lbs diameter of stays at smallest part 1 13/16" working pressure by rules 96 lbs Front plates at bottom, thickness 11/16" Back plates, thickness 11/16"

Greatest pitch of stays 14" working pressure by rules 93 lbs Diameter of tubes 3" pitch of tubes 4" thickness of tube plates, front 11/16" back 11/16" how stayed tubes pitch of stays 16" width of water spaces 9 3/4"

Diameter of Superheater or Steam chest 2'. 6" length 3'. 0" thickness of plates 7/16" description of longitudinal joint sing riv diam. of rivet holes 13/16"

Pitch of rivets 2 1/4" working pressure of shell by rules 128 diameter of flue ✓ thickness of plates ✓ If stiffened with rings ✓

Distance between rings ✓ working pressure by rules ✓ end plates of superheater, or steam chest; thickness 1/2" how stayed one stay 1 3/4" dia.

Superheater or steam chest; how connected to boiler

(State if Report is to be sent on the Hull of the Ship)

[Form No. 8—2000—8/6/88—T. & S.—Copyable Ink.]

Description of furnaces

9271 Gls.

DONKEY BOILER— *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* ..... *if fitted with easing gear* ..... *if steam from main boilers can enter the donkey boiler* ..... *diameter of donkey boiler* ..... *length* ..... *description of riveting* .....

Thickness of shell plates ..... *diameter of rivet holes* ..... *whether punched or drilled* ..... *pitch of rivets* ..... *lap of plating* ..... *per centage of strength of joint* ..... *thickness of crown plates* ..... *stayed by* .....

Diameter of furnace, top ..... *bottom* ..... *length of furnace* ..... *thickness of 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 plates* ..... *thickness of water tubes* .....

SPARE GEAR. *State the articles supplied :—* .....

The foregoing is a correct description,

Manufacturer.

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

This boiler has been constructed under special survey & is of good material & workmanship, it has undergone a satisfactory hydraulic test in my presence, a Certificate for which has been duly signed & sent to the makers.
The boiler has now been fitted on board.
While the vessel was on Bowling slipway on the 3rd & 5th of July the Cylinders, pistons, slide valves, pumps, & crank shaft & sea valves with their connections were examined & found in efficient working order. The propeller length was drawn in & found to be cracked at top of tapered part & corroded under the brasses a new propeller shaft was recommended to be fitted or the old one to be cut & welded inside the corroded parts.

Charles Cooper
Glasgow

A new propeller shaft has been fitted in this Vessel in addition to the above mentioned repairs & overhaul and to complete the Survey of the Machinery it has been arranged to examine the Boilers and Machinery under steam on Tuesday next (20th inst) and set the Safety Valves to the working pressure

It is submitted that this Vessel will be eligible to have + N.B. 89. L M C 7.89 recorded when the Machinery has been tried under steam and the safety valves adjusted. W. A. 16.8.89.

The amount of Entry Fee .. £ : : received by me,

Special .. .. .. £ 1 : 1 : -

Main Boiler Fee .. .. £ 3 : 3 : -

Certificate (if required) .. £ : : 180

To be sent as per margin.

(*Travelling Expenses, if any,* £ 3/6)

Committee's Minute .....

FRIDAY 16 AUGUST 1889

FRIDAY 23 AUGUST 1889

James Allison
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

R. E. TAYLOR & SON, STEAM PRINTERS, 19 OLD STREET, GODWELL ROAD, LONDON, E.C.