

REPORT ON MACHINERY.

24344

WED 25 JUNE 1890

Port of Newcastle

Received at London Office

Survey held at Glasgow & Newcastle

Date, first Survey 14th May 1889 Last Survey 5th June 1890

(Number of Visits 50)

Gross 1834

Net 1144

When built 1890

Built at Newcastle

By whom built Swan & Hunter

when made 1890

at Glasgow

By whom made Alley & MacLellan

when made 1890

at So. Shields

By whom made J. G. Ettringham

when made 1890

orse Power 140

Owners Audig & Feder

Port belonging to Rotterdam

Engines Triple Expansion on three cranks No. of Cylinders Three

Dimensions 20", 33" & 54" Length of Stroke 39" Rev. per minute 70 Point of Cut off, High Pressure 27" Low Pressure 24"

Screw shaft 10 1/2" Diam. of Tunnel shaft 10" Diam. of Crank shaft journals 10 1/2" Diam. of Crank pin 10 3/4" size of Crank webs 4 7/8" x 7 1/2"

Screw 13'-6" Pitch of screw 14'-6" No. of blades 4 state whether moveable Yes total surface 605^{sq} ft

Pumps Iron diameter of ditto 3 1/2" Stroke 19" Can one be overhauled while the other is at work Yes

Water pump from Star - from sea, helix (3) holds well - Port same except sea

Where do they pump from Feed from boiler, hotwell,

Size of Pumps 8x8x8 & 6x3 1/2x3 1/2x6 Ballast pump from helix, holds tunnel tanks

Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes

Are they connected to condenser or to circulating pump Yes

Are they Valves or Cocks both

Are the discharge pipes above or below the deep water line both discharges at same

Are the blow off cocks fitted with a spigot and brass covering plate Yes

How are they protected None

Are they accessible at all times Yes

Are they arranged so as to prevent an unintentional connection between the sea and the bilges Yes

Are they examined in dry dock new vessel

Are they fitted with a sluice door Yes worked from top platform

Material Steel Letter (for record)

Date of test 2.4.90 No of test 3190

Tested by hydraulic pressure to 320

Can the superheater be shut off and the boiler worked separately Yes

Description of safety valves spring No. to each boiler two

Area of each valve 7070 Diameter of boilers 12'-8 1/8"

Are they fitted with easing gear Yes Thinnest distance between boilers and bunkers or woodwork 11

Thickness of shell plates 1/32

description of riveting of shell long. seams lap 6 & 7 rivets circum. Lap of plating 13 3/4

Whether punched or drilled drilled pitch of rivets 4"

working pressure of shell by rules 159 size of manholes in shell 16x12

stage of strength of longitudinal joint 29

Description of Furnaces Plain

No. of Furnaces in each boiler 3

thickness of plates 1 1/8" description of joint lap double if rings are fitted Yes

working pressure of furnace by the rules 160 combustion chamber plating, thickness, sides 5/8 back 5/8 top 5/8

If stays are fitted with nuts or riveted heads nuts working pressure of plating by

working pressure of ditto by rules 230 end plates in steam space, thickness 7/8 and 5/8 doubling

diameter of stays at

how stays are secured White wash working pressure by rules 160 diameter of stays at

working pressure by rules 167 Front plates at bottom, thickness 7/8 Back plates, thickness 7/8

Diameter of tubes 3 1/4" pitch of tubes 4 1/2" x 4 1/8" thickness of tube

pitch of stays 14" width of water spaces

how stayed back 7/8" diam. of rivet holes

description of longitudinal joint

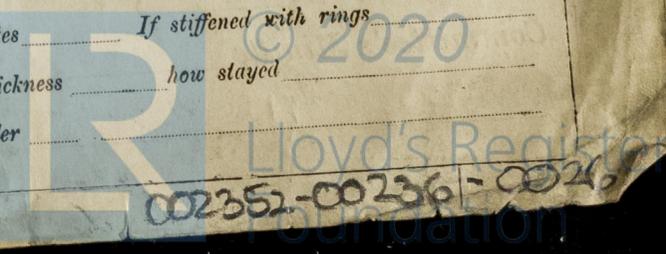
thickness of plates 7/8" If stiffened with rings

diameter of flue 167 thickness of plates 7/8" how stayed

working pressure of sil by rules 146 end plates of superheater, or steam chest; thickness

working pressure by rules 160 Superheater or steam chest; how connected to boiler

Report No. 24344 sent to L.R. 24/6/90



DONKEY BOILER— Description *Vertical 4 x tube*
 Made at *Stockton* by whom made *Riley Bros* when made *9.12.89* where fixed *Stockton*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *2016* fire grate area *28 sq ft* description of safety valves *sprung*
 No. of safety valves *2* area of each *4.91* if fitted with easing gear *25* if steam from main boilers can enter the donkey boiler *no* diameter of donkey boiler *7.0* length *14.0* description of riveting *d l*
 Thickness of shell plates *7/16* diameter of rivet holes *13/16* whether punched or drilled *p* pitch of rivets *2 13/16* lap of plating *4 1/2*
 per centage of strength of joint *71* thickness of crown plates *7/16* stayed by *7 stays 1 1/2 diam*
 Diameter of furnace, top *5.5* bottom *6.0 1/2* length of furnace *5.2* thickness of plates *7/8* description of joint *sl*
 Thickness of furnace crown plates *9/16* stayed by *as crown* working pressure of shell by rules *79*
 Working pressure of furnace by rules *81* diameter of uptake *17* thickness of plates *7/16* thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied:— *6 Coupling bolts, 2 top end 2 bottom end & 2 main bearing bolts, propeller, bolts nuts, hp piston springs, hp pump valves iron & usual engine room outfit.*

The foregoing is a correct description,
Alley Macpherson Manufacturer. *W. J. Cunningham* Manufacturer of main tube

General Remarks (State quality of workmanship, opinions as to class, &c.) *The above mentioned engines are of good workmanship and material, they have been built under special Survey and have been forwarded to So. Shields where they will be put on board the vessel.*

John Sanderson
 Glasgow 9/5/89

The main boilers of this vessel have been constructed here under special survey and the whole of the machinery has been satisfactorily fitted on board. The engines have been tried under steer and found in order.

The machinery of this vessel is unexceptionable in our opinion to have the record of L. M. C. 6.90 in the Society's Register.
 Heating surface as per rule = 2722
 HHP = 183

It is submitted that this vessel is eligible to have L.M.C. 6.90 recorded

The amount of Entry Fee *not* received by me,
 Special *£ 13 19*
 Donkey Boiler Fee *£ 13 10*
 Certificate (if required) *£ 17*
 To be sent as per margin.
 (Travelling Expenses, if any, £)

27.90
25.6.90
John H. Wallis & Richard Napier
 Engineer Surveyor to Ld's Register of British & Foreign Shipping.

Committee's Minute *TUES 1 JULY 1890*
+ L.M.C. 6/90

