

# REPORT ON MACHINERY.

MON 6 MAY 1889

Port of *Newcastle*

Received at London Office *18*

*22746*  
Survey held at  
Book.

*Newcastle*

Date, first Survey *20 Sept*

Last Survey *16 Apr 1889*

(Number of Visits *26*)

*2308.37*

*S.S. S<sup>t</sup> Cleas*

Tons *1554 10*

on the

*Widgery*

Built at *Newcastle*

By whom built *Robt Ham Thom Leslie & Co*

When built *1889*

ines made at

*Newcastle*

By whom made

*Ham Thom Leslie & Co*

when made *1889*

ers made at

*do*

By whom made

*"*

when made

*"*

istered Horse Power

*160*

Owners

*S<sup>t</sup> Cleas S<sup>t</sup> C<sup>o</sup> Ltd*

Port belonging to

*London*

INES, &c.—

Description of Engines

*Triple expansion on three cranks*

Diameter of Cylinders

*22½ 36½ 60*

Length of Stroke

*39*

No. of Rev. per minute

*80*

Point of Cut off, High Pressure *¾* Low Pressure *80%*

Diameter of Screw shaft

*11½*

Diam. of Tunnel shaft

*10¾*

Diam. of Crank shaft journals

*11½*

Diam. of Crank pin

*11½*

size of Crank webs *6½ x 14*

Diameter of screw

*14.0*

Pitch of screw

*16.0*

No. of blades

*4*

state whether moveable

*no*

total surface

*52 sq*

No. of Feed pumps

*2*

diameter of ditto

*3¾*

Stroke

*18*

Can one be overhauled while the other is at work *yes*

No. of Bilge pumps

*2*

diameter of ditto

*3¾*

Stroke

*18*

Can one be overhauled while the other is at work *yes*

Where do they pump from

*all from engine bilge (4) holds tunnel. Fire from bilge (3) holds well tank*

No. of Donkey Engines

*two*

Size of Pumps

*8 x 10 14 x 8*

Where do they pump from *Feed from hotwell tank*

*all from tanks, bilge (3) holds well.*

Are all the bilge suction pipes fitted with roses

*yes*

Are the roses always accessible

*yes*

Are the sluices on Engine room bulkheads always accessible *yes*

No. of bilge injections

*one*

and sizes

*4*

Are they connected to condenser, or to circulating pump

*yes*

Are the pumps worked

*by covers over condenser from after turbine*

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 *at knee*

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*

How are they protected

*none*

How are they protected *yes*

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

*yes*

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

*yes*

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

*new vessel*

Is the screw shaft tunnel watertight

*yes*

and fitted with a sluice door

*yes*

worked from *top platform*

BOILERS, &c.—

Number of Boilers

*Two*

Description

*Cyl. Simple ended*

Whether Steel or Iron

*Steel*

Working Pressure

*160 lbs*

Tested by hydraulic pressure to

*320 lbs*

Date of test

*January 19<sup>th</sup> 1889 2/07*

Description of superheating apparatus or steam chest

*none*

Can each boiler be worked separately

*yes*

Can the superheater be shut off and the boiler worked separately *yes*

No. of square feet of fire grate surface in each boiler

*62.5 sq*

Description of safety valves

*spring*

No. to each boiler

*two*

Area of each valve

*7.07 sq*

Are they fitted with easing gear

*yes*

No. of safety valves to superheater

*yes*

area of each valve

*yes*

Are they fitted with easing gear

*yes*

Smallest distance between boilers and bunkers or woodwork

*16"*

Diameter of boilers

*14.0*

Length of boilers

*10.8*

Description of riveting of shell long. seams

*Rivets joint*

circum. seams

*double lap*

Thickness of shell plates

*1½"*

Diameter of rivet holes

*1½ x 19/16*

whether punched or drilled

*drilled*

pitch of rivets

*5 7/16 x 5 3/8*

Lap of plating

*14 1/8 x 22 1/4*

Percentage of strength of longitudinal joint

*84.1*

working pressure of shell by rules

*157.3*

size of manholes in shell

*16 x 12*

Size of compensating rings

*6 x 1½*

No. of Furnaces in each boiler

*four*

Outside diameter

*2.11*

length, top

*3.9*

bottom

*3.9*

thickness of plates

*3/8*

description of joint

*welded*

if rings are fitted

*Adams*

Greatest length between rings

*3.9*

working pressure of furnace by the rules

*166*

combustion chamber plating, thickness, sides

*½"*

back

*½"*

top

*½"*

Pitch of stays to ditto, sides

*7*

back

*7*

top

*7*

If stays are fitted with nuts or riveted heads

*yes*

working pressure of plating by

*161*

end plates in steam space, thickness

*7/16*

rules

*157*

Diameter of stays at smallest part

*1½"*

how stays are secured

*drawn*

working pressure by rules

*160*

diameter of stays at

*160*

smallest part

*2 1/4"*

Greatest pitch of stays

*13*

working pressure by rules

*160*

Diameter of tubes

*3 1/4"*

pitch of tubes

*4 1/2"*

thickness of tube

*7 1/2"*

width of water spaces

*7 1/2"*

Plates, front

*1 1/16"*

back

*13/16"*

how stayed

*tubes*

pitch of stays

*13 1/2"*

description of longitudinal joint

*yes*

diam. of rivet holes

*yes*

If stiffened with rings

*yes*

Diameter of Superheater or Steam chest

*yes*

length

*yes*

thickness of plates

*yes*

description of longitudinal joint

*yes*

diam. of rivet holes

*yes*

If stiffened with rings

*yes*

Pitch of rivets

*yes*

working pressure of shell by rules

*yes*

diameter of flue

*yes*

thickness of plates

*yes*

If stiffened with rings

*yes*

how stayed

*yes*

Distance between rings

*yes*

**DONKEY BOILER**— Description *Vertical iron cross tubes*  
Made at *Stockton* by whom made *Riley Bros.* when made *3/6/89* where fixed *Stockholm*  
Working pressure *80 lb* tested by hydraulic pressure to *160 lb* No. of Certificate *1475* fire grate area *28 sq* description of safety  
valves *spring* No. of safety valves *two* area of each *5.94* if fitted with easing gear *Ys* if steam from main boilers can  
enter the donkey boiler *no* diameter of donkey boiler *6.10 1/16* length *14.6* description of riveting *all*  
Thickness of shell plates *19/32* diameter of rivet holes *15/16* whether punched or drilled *p* pitch of rivets *3 1/2* lap of plating *4 1/2*  
per centage of strength of joint *71* thickness of crown plates *19/32* stayed by *7 stays 1 1/2 diam*  
Diameter of furnace, top *5.6 3/4* bottom *6.3 3/8* length of furnace *5.2* thickness of plates *3/8* description of joint *all*  
Thickness of furnace crown plates *19/32* stayed by *as crown* working pressure of shell by rules *83*  
Working pressure of furnace by rules *70* diameter of uptake *17* thickness of plates *1/2* thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied:— *Three runs of screw stays, Propeller, Crank shaft, screw shaft, 2 top end bolts, 2 bottom end bolts, 2 main bearing bolts, 6 coupling bolts, 2 half & speed valves seat, piston springs, bolts nuts, bar & plate iron and usual engine room outfit.*

The foregoing is a correct description,

*R. & W. Hawthorn, Leslie & Co., Limited, Manufacturers of Marine Engines.*

For *R. & W. HAWTHORN, LESLIE & CO., LIMITED,*

*H. Marshall* DIRECTOR.

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under special survey the materials and workmanship are sound and good and eligible in my opinion to be classed + L.M.C. 4.89 in the Society's Register Book.*

*Boiler*

*It is submitted that this vessel is eligible to have + L.M.C. 4.89 recorded*

The amount of Entry Fee ... £ *2* : received by me, *not at Stockton*  
Special ... £ *24* : *W.C.*  
Donkey Boiler Fee ... £ - :  
Certificate (if required) ... £ - : *9/5/89*

(Travelling Expenses, if any, £ )

Committee's Minute *TUES 7 MAY 1889*  
*+ L.M.C. 4/89*

*John H. Wallis* 2021  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Lloyd's Register Foundation