

REPORT ON MACHINERY.

Port of *Glasgow*

WED. 21 DEC 1893

Received at London Office 18

No. in Survey held at *Glasgow*

Date, first Survey *13 Dec 1894* Last Survey *25 April 1895*

Reg. Book.

(Number of Visits *7*)

on the

Machinery for Dundee

Nº 31

Tons { Gross *361.28*
Net *195.49*

Master *G. Nelson*

Built at

Montrose

By whom built

J. Guthrie & Co

When built *1899*

Engines made at

Glasgow

By whom made

Hall Brown & Buttery & Co

when made *1894*

Boilers made at

Glasgow

By whom made

S. Neilson & Son

when made *1898*

Registered Horse Power

Owners

Port belonging to

nom. Horse Power as per Section 28 *52*

Is Electric Light fitted

ENGINES, &c.—Description of Engines *Compound*

No. of Cylinders *Two*

No. of Cranks *2*

Diameter of Cylinders *18" 02"*

Length of Stroke *24*

Revolutions per minute

Diameter of Screw shaft

as per rule *6.4*

Diameter of Tunnel shaft

as per rule

Diameter of Crank shaft journals *6 1/2*

Diameter of Crank pin *6 1/2*

Size of Crank webs

as fitted *495 x 11 1/4*

Diameter of screw *7.6*

Pitch of screw *10.0*

No. of blades *3*

State whether moveable *no*

Total surface *17 1/2 sq ft*

No. of Feed pumps *one*

Diameter of ditto *2 1/8*

Stroke *12"*

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

No. of Bilge pumps *one*

Diameter of ditto *2 1/8*

Stroke *12"*

Can one be overhauled while the other is at work

No. of Donkey Engines *one on condenser*

Sizes of Pumps *6 x 6"*

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room

Two = 2" diam

In Holds, &c.

Two = 2" diam

No. of bilge injections *1*

sizes *3 1/2*

Connected to condenser or to circulating pump *yes*

Is a separate donkey suction fitted in Engine room & size *yes - 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 *yes*

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 *Four hold suctions*

How are they protected *wood ceiling*

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 *not in dry dock*

Is the screw shaft tunnel watertight *none*

Is it fitted with a watertight door *✓*

worked from *✓*

BOILERS, &c.—

(Letter for record *S*)

Total Heating Surface of Boilers *895 sq ft*

Is forced draft fitted *no*

No. and Description of Boilers *one single ended cylindrical*

Working Pressure *130*

Tested by hydraulic pressure to *260*

Date of test *18/11/95*

Can each boiler be worked separately *✓*

Area of fire grate in each boiler *36 sq ft*

No. and Description of safety valves to

each boiler *Two spring*

Area of each valve *5.41*

Pressure to which they are adjusted *134 lbs*

Are they fitted

with easing gear *yes*

Smallest distance between boilers or between boilers and bunkers or *bulkhead / sides = 7 1/2"*

woodwork *back = 25 1/2"*

Mean diameter of boilers *11' 0"*

Length *10.0*

Material of shell plates *steel*

Thickness *3 1/2*

Description of riveting: circum. seams *double lap*

long. seams *D. Butt 6 rivets*

Diameter of rivet holes in long. seams *4 1/8*

Pitch of rivets *5 1/2*

Lap of plates or width of butt straps *11 1/8*

Percentages of strength of longitudinal joint

plate *86.4*

Working pressure of shell by rules *131*

Size of manhole in shell *16 x 12*

Size of compensating ring *W. Rules*

No. and Description of Furnaces in each boiler *two plain*

Material *steel* Outside diameter *41 5/16*

Length of plain part

top *36-10*

Thickness of plates

crown *3 1/2*

Description of longitudinal joint *united d. straps*

No. of strengthening rings *1 partial*

Working pressure of furnace by the rules *199*

Combustion chamber plates: Material *steel* Thickness: Sides *1/2*

Back *1/2*

Top *1/2*

Bottom *3/2*

Pitch of stays to ditto: Sides *8 x 7 3/4*

Back *7 1/2 x 7 1/2*

Top *8 x 7 3/4*

If stays are fitted with nuts or riveted heads *nuts*

Working pressure by rules *128*

Material of stays *steel*

Diameter at smallest part *1.01*

Area supported by each stay *62 sq"*

Working pressure by rules *180*

End plates in steam space:

Material *steel*

Thickness *3 1/2*

Pitch of stays *16 x 16*

How are stays secured *2 nuts*

Working pressure by rules *131*

Material of stays *steel*

Diameter at smallest part *8.77*

Area supported by each stay *206 sq"*

Working pressure by rules *147*

Material of Front plates at bottom *steel*

Thickness *3 1/2*

Material of Lower back plate *steel*

Thickness *9/16*

Greatest pitch of stays *7 3/4 x 7 3/4*

Working pressure of plate by rules *182*

Diameter of tubes *3 1/2*

Pitch of tubes *4 3/4 x 4 3/4*

Material of tube plates *steel*

Thickness *3 1/2*

Front

Back *3 1/2*

Mean pitch of stays *11.26*

Pitch across wide water spaces *13 1/2*

Working pressures by rules *184*

Girders to Chamber tops: Material *steel*

Depth and

thickness of girder at centre *6 1/2 x 9 double*

Length as per rule *26 3/4*

Distance apart *8"*

Number and pitch of Stays in each *Two 7 3/4"*

Working pressure by rules *138*

Superheater or Steam chest; how connected to boiler *none*

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

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DUN127-0121

DONKEY BOILER— Description None

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 _____ Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
Description of riveting long. seams _____ Diameter 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:— As per Rule

The foregoing is a correct description,
Hall-Brown, Buttery & Co Manufacturers of Engines

James Neilson & Son
Boilermakers

Dates of Survey { During progress of work in shops - } 1894:- Dec. 13, 19, 1895:- Jan. 14, Mar. 22, Apr. 5, 9, 25.
while building { During erection on board vessel - }
Total No. of visits Seven

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

ENGINES—Length of stern bush _____ Diameter of crank shaft journals as per rule 6.4 Diameter of thrust shaft under collars as fitted 6.2

BOILERS—Range of tensile strength 27,500 Are they welded or flanged no DONKEY BOILERS—No. _____ Range of tensile strength _____

Is the approved plan of main boiler forwarded herewith yes Is the approved plan of donkey boiler forwarded herewith _____

This machinery has been constructed under special survey, the materials & workmanship are of good description it has now been forwarded to Dundee to be fitted on board the vessel

It is submitted that
this vessel is eligible for
THE RECORD. ✕ L.M.C. 2.99.

H.S. A.C.H.
14.2.99 13.2.99.

The amount of Entry Fee. £ 1 : : : When applied for.
Special Boiler Fee £ 5 : : : 26.11.18.98
Donkey Boiler Fee £ 3 : : :
Travelling Expenses (if any) £ : : : 29.11.18.98

A. McQuand & J. Kerr
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 14 FEB 1899

Assigned



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