

REPORT ON MACHINERY.

NO. 32702

Port of Newcastle on Tyne

WED, JAN 1 1895

Received at London Office

No. in Survey held at South Shields

Date, first Survey 4th July 1895 Last Survey December 25 1895

Reg. Book. on the S.S. "Champion"

(Number of Visits 30)

Tons { Gross 306.76
Net 16.22

Master W. F. Robertson Built at South Shields By whom built J. P. Remoldson & Co

When built 1895

Engines made at South Shields By whom made J. P. Remoldson & Co when made 12-1895

Boilers made at South Shields By whom made J. P. Ellingham & Co when made 12-1895

Registered Horse Power 1000 Owners James Alexander Brown Port belonging to Newcastle & S.W.

Nom. Horse Power as per Section 28 149

ENGINES, &c.— Description of Engines Triple - surface condensing No. of Cylinders 3

Diameter of Cylinders 14 1/4, 28 1/2, 44 Length of Stroke 33" Revolutions per minute 160 Diameter of Screw shaft as per rule 8-5"

Diameter of Tunnel shaft as fitted 8 1/2" Diameter of Crank shaft journals 9" Diameter of Crank pin 9" Size of Crank webs 13 1/2 x 6 1/8"

Diameter of screw 11-4" Pitch of screw 15-4 1/2" No. of blades 4 State whether moveable yes Total surface 36.77

No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 16 1/2" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3" Stroke 16 1/2" Can one be overhauled while the other is at work yes

No. of Donkey Engines one Sizes of Pumps duplex 5 1/2 x 8 1/2 x 5" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 - 2" dia In Holds, &c. one in fore hold & one in after hold 2" dia

No. of bilge injections 1 sizes 4 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 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 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 none How are they protected —

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 11-12-95 Is the screw shaft tunnel watertight no tunnel

Is it fitted with a watertight door — worked from —

OILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 2561

No. and Description of Boilers One Multi-Cyl Single ended Working Pressure 165 lbs Tested by hydraulic pressure to 330 lbs

Date of test 1-11-95 Can each boiler be worked separately — Area of fire grate in each boiler 72.8 No. and Description of safety valves to each boiler two Adams spring

Area of each valve 3.94 Pressure to which they are adjusted 168 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean diameter of boilers 15-8 1/2"

Length 11-0" Material of shell plates steel Thickness 1/2" Description of riveting: circum. seams lap d. 7" long. seams double butt, 2 rows

Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 8 1/4" Top of plates on width of butt straps 28 1/2"

Per centages of strength of longitudinal joint rivets 85 plate 82 Working pressure of shell by rules 193 lbs Size of manhole in shell 16 x 12"

Size of compensating ring 7 1/2 x 1 1/2" No. and Description of Furnaces in each boiler 4 Purvis Material steel Outside diameter 39"

Length of plain part top — bottom — Thickness of plates crown 1 1/2" bottom — Description of longitudinal joint welded No. of strengthening rings none

Working pressure of furnace by the rules 178 lbs Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 3/4"

Pitch of stays to ditto: Sides 9 x 9" Back 8 1/2 x 9" Top 7 1/2 x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 166 lbs

Material of stays steel Diameter at smallest part 1 1/2" Area supported by each stay 70.0 Working pressure by rules 87 1/2 lbs End plates in steam space:

Material steel Thickness 3/2 x 1 1/2" Pitch of stays 21 x 16 1/2" How are stays secured DN+W Working pressure by rules 201 lbs Material of stays steel

Diameter at smallest part 2 3/32" Area supported by each stay 346.5 Working pressure by rules 164 lbs Material of Front plates at bottom steel

Thickness 15/16" Material of Lower back plate steel Thickness 7/8" Greatest pitch of stays 17" Working pressure of plate by rules 168 lbs

Diameter of tubes 3 1/2" Pitch of tubes 4 1/4 x 4 1/4" Material of tube plates steel Thickness: Front 5/16" Back 3/8" Mean pitch of stays 11 1/2"

Pitch across wide water spaces 14 1/2" Working pressures by rules 171 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 2 plates 7 1/2 x 1 1/2" Length as per rule — Distance apart 9" Number and pitch of Stays in each three 7 1/2"

Working pressure by rules 168 lbs 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 —

Lloyd's Register Foundation
NWC 844-0175

DONKEY BOILER—

Description *None fitted*

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 _____ Plates _____ 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:— *Two top end & two bottom end bolts, two main bearing bolts, one set of coupling bolts, one set of gear & one set of bridge pumps valves and a quantity of assorted bolts & pieces of iron.*

The foregoing is a correct description,
J. H. Pennington Manufacturer of main engines
J. Cunningham & Co. Manufacturers of Moulds

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines & boiler of this vessel have been constructed & fitted on board under special survey, the workmanship being sound & good throughout. This vessel has been fitted with a 24" centrifugal pump for salvage purposes. An electric lighting installation has been fitted by Messrs Clarke Chapman & Co. The machinery has been tried under steam & found to work well which in our opinion renders the vessel eligible for the record of **L.M.C. 12-95** in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 12-95. Electric Light.

J.H.P. 1/1-96
J.M.S. 1/1-96

Certificate (if required) to be sent to _____

The amount of Entry Fee.. £ *7* : *0* : *9* When applied for, _____

Special £ *22* : *7* : *9* *31.12.95*

Donkey Boiler Fee £ : : When received, _____

Travelling Expenses (if any) £ : : *6.10.96*

Robert Harvey & Harry Clarke
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

FRI, JAN 3 1896

Committee's Minute _____

Assigned *L.M.C. 12-95*

(The Surveyors are requested not to write on or below the space for Committee's Minutes.)



Port of _____
 No. in Reg. Book _____
 Owners _____
 Yard No. _____
DESCRIPTION
Donkey boiler
 Capacity _____
 Where installed _____
 Position _____
 Positions _____
 If cut out _____
 If vessel _____
 Are the _____
 Are all _____
 are _____
 Are all _____
 Total number _____
 A _____
 B _____
 C _____
 D _____
 E _____
 2
 2
 If arc _____
 Where _____
DESCRIPTION
 Main _____
 Branch _____
 Branch _____
 Leads to _____
 Cargo _____
DESCRIPTION
 In Cab _____
 In ex _____
 Joints in _____
 ble _____
 Are all _____
 ma _____
 Are the _____
 How ar _____