

REPORT ON MACHINERY.

No. 5448

Received at London Office

MON. NOV. 17. 1913

Date of writing Report 29-10-1913 When handed in at Local Office

Port of Falmouth.

No. in Survey held at Falmouth

Date, First Survey 10-2-13 Last Survey 25-10 1913

Reg. Book.

1180 on the Steam Screw Tug "Hinas" late SS. 72164

(Number of Visits 147)

Gross 49.07

Tons Net 6.66

When built 1913-10

Master J. A. Rogers. Built at Falmouth By whom built Cox. & Co. Ltd.

Engines made at Falmouth By whom made Cox. & Co. Ltd.

when made 1913-10

Boilers made at Falmouth By whom made Cox. & Co. Ltd.

when made 1913-10

Registered Horse Power 32.4

Owners T. Wilson, Sons. & Co. Ltd.

Port belonging to Rio de Janeiro.

Nom. Horse Power as per Section 28 24.05 32 Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.—Description of Engines *Inverted Compound Surface Condensing* No. of Cylinders *Two* No. of Cranks *Two*
 Dia. of Cylinders *13"-26"* Length of Stroke *17"* Revs. per minute *163* Dia. of Screw shaft *5.36* as per rule *5.628* Material of *Wrought Iron*
 as fitted *5 11/16* screw shaft
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *yes* Is the after end of the liner made water tight
 in the propeller boss *yes* If the liner is in more than one length are the joints burned *—* If the liner does not fit tightly at the part
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *—* If two
 liners are fitted, is the shaft lapped or protected between the liners *—* Length of stern bush *1'-10"*
 Dia. of Tunnel shaft *as per rule 5.0109* Dia. of Crank shaft journals *as per rule 5.26* Dia. of Crank pin *5 3/8* Size of Crank webs *10 1/4 x 3 1/2* Dia. of thrust shaft under
 collars *5 3/8* Dia. of screw *6'-0"* Pitch of Screw *8'-9"* No. of Blades *4* State whether moveable *no* Total surface *13.63*
 No. of Feed pumps *one* Diameter of ditto *2"* Stroke *8 1/2"* Can one be overhauled while the other is at work *—*
 No. of Bilge pumps *one* Diameter of ditto *2"* Stroke *8 1/2"* Can one be overhauled while the other is at work *—*
 No. of Donkey Engines *one* Sizes of Pumps *2 1/2" dia. double acting* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *one to donkey or bilge pump. & one to donkey only* In Holds, &c. *one to fore hold & one to after hold for either*
donkey or bilge pumps.
 No. of Bilge Injections *one* sizes *2"* Connected to condenser, or to circulating pump *pump* 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 *Main Injections a valve all others cocks*
 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*
 Dates of examination of completion of fitting of Sea Connections *20-10-13* of Stern Tube *20-10-13* Screw shaft and Propeller *20-10-13*
 Is the Screw Shaft Tunnel watertight *—* Is it fitted with a watertight door *—* worked from *—*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *W. Beardmore. & Co.*
 Total Heating Surface of Boilers *637* Is Forced Draft fitted *no* No. and Description of Boilers *one cylindrical return tube*
 Working Pressure *120 lbs* Tested by hydraulic pressure to *240 lbs* Date of test *2-9-13* No. of Certificate *148*
 Can each boiler be worked separately *—* Area of fire grate in each boiler *27.9* No. and Description of Safety Valves to
 each boiler *Two, Cox's double lip* Area of each valve *3.97* Pressure to which they are adjusted *120 lbs* Are they fitted with easing gear *yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *3"* Mean dia. of boilers *8'-10"* Length *9'-0"* Material of shell plates *steel*
 Thickness *2 1/32* Range of tensile strength *28 to 32 tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *lap 2 rivets*
 long. seams *lap 3 rivets* Diameter of rivet holes in long. seams *3 1/32* Pitch of rivets *3 13/16* Lap of plates *or width of butt straps 6 3/4*
 Percentages of strength of longitudinal joint *75-16* Working pressure of shell by rules *122.6* Size of manhole in shell *16" x 12"*
 of compensating ring *2-1 x 2-1 x 2 1/32* No. and Description of Furnaces in each boiler *two plain* Material *steel* Outside diameter *33"*
 Length of plain part *top 6'-1 1/2"* Thickness of plates *bottom 17/32* Description of longitudinal joint *single butt double rivets* No. of strengthening rings *—*
 Working pressure of furnace by the rules *125* Combustion chamber plates: Material *steel* Thickness: Sides *17/32* Back *17/32* Top *17/32* Bottom *9/16*
 of stays to ditto: Sides *8 3/4 x 8* Back *8 3/4 x 8* Top *8 3/4 x 8* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *123.4*
 Material of stays *steel* Diameter at smallest part *1' 2 1/4"* Area supported by each stay *70* Working pressure by rules *136* End plates in steam space:
 Material *steel* Thickness *F. 3/4"* Pitch of stays *13 1/4"* How are stays secured *F. double nuts* Working pressure by rules *F. 152* Material of stays *steel*
 Diameter at smallest part *1' 6 1/2"* Area supported by each stay *165.6* Working pressure by rules *130* Material of Front plates at bottom *steel*
 Thickness *3/4"* Material of Lower back plate *steel* Thickness *19/32* Greatest pitch of stays *11 1/2" x 8"* Working pressure of plate by rules *124*
 Diameter of tubes *3"* Pitch of tubes *4"* Material of tube plates *steel* Thickness: Front *3/4"* Back *5/8"* Mean pitch of stays *10"*
 across wide water spaces *14"* Working pressures by rules *F. 124.6 B. 140* Girders to Chamber tops: Material *steel* Depth and
 thickness of girder at centre *5 7/8" x 1"* Length as per rule *24"* Distance apart *8"* Number and pitch of stays in each *two 8 3/4"*
 Working pressure by rules *125.6* Superheater or Steam chest; how connected to boiler *—* 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
 Pitch of rivets *—* Working pressure of shell by rules *—* Diameter of flue *—* Material of flue plates *—* Thickness *—*
 fitted 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 *—*

VERTICAL DONKEY BOILER—Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from _____ can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ 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 _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— 1. Propeller, 2. crosshead bolts, 2. crankhead bolts, 2. main bearing bolts, 4 shaft coupling bolts, 1 set air pump valves, 1 set circulating pump valves, 1 set feed pump valves, 1 set bilge pump valves, 1 boiler main feed check valve, 1 boiler donkey feed check valve, 1 set of fire bars for furnace, a quantity of assorted bolts & nuts & a quantity of iron of various sizes.

The foregoing is a correct description,

COX & Co., (ENGINEERS) LTD., Manufacturer.

Herbert H. Cox Manager
 Dates of Survey while building
 During progress of work in shops—
 During erection on board vessel—
 Total No. of visits—

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

Dates of Examination of principal parts—Cylinders 2-5-13 Slides 15-2-13 Covers 19-2-13 Pistons 11-3-13 Rods 1-3-13
 Connecting rods 1-3-13 Crank shaft 1-3-13 Thrust shaft 1-3-13 Tunnel shafts 25-7-13 Screw shaft 23-8-13 Propeller 22-2-13
 Stern tube 31-7-13 Steam pipes tested 14-10-13 Engine and boiler seatings 29-9-13 Engines holding down bolts 14-10-13
 Completion of pumping arrangements 14-10-13 Boilers fixed 14-10-13 Engines tried under steam 22-10-13
 Main boiler safety valves adjusted 20-10-13 Thickness of adjusting washers 3/8
 Material of Crank shaft iron Identification Mark on Do. 27-8-13.70 Material of Thrust shaft iron Identification Mark on Do. 27-8-13.70
 Material of Tunnel shafts iron Identification Marks on Do. 27-8-13.70 Material of Screw shafts iron Identification Marks on Do. 27-8-13.70
 Material of Steam Pipes Copper, seamless Test pressure 250 ^{lbs} per sq. in.

General Remarks (State quality of workmanship, opinions as to class, &c. The workmanship is good throughout.)
 The steam & feed pipes have been tested in my presence by hydraulic pressure to 250 ^{lbs} per sq. in.
 The safety valves are set to relieve at 120 ^{lbs} pressure with no apparent accumulation.
 At the trial the engines worked well & efficiently.
 Everything being fitted in accordance with the Rules & Instructions, I am of opinion that the Machinery is fit for Classification in the Society's Register Book, & beg to recommend for the Committee's approval that a Machinery Certificate be granted & the notation of + L.M.C. 10-13 made in the Register Book.

It is submitted that
 this vessel is eligible for
 THE RECORD. + L.M.C. 10-13.

The amount of Entry Fee... £ 1 : 0 :
 Special ... £ 8 : 0 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ 9-0-0

Committee's Minute

Assigned

Francis Davis
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



© 2020

Lloyd's Register
 Foundation