

REPORT ON MACHINERY.

No. 23304

Port of *Sunderland*Received at London Office *FRI. 14 JUN 1907*No. in Survey held at *Sunderland*
Reg. Book.Date, first Survey *10th October, 07* Last Survey *23rd May 1907*(Number of Visits *64*)on the *Steel Sailing Steamer "Principe di Piemonte"*Tons { Gross *5205.97*
Net *3312.74*
When built *1904*Master *V. Domeniconi* Built at *Sunderland* By whom built *Self Lang & Sons Ltd*Engines made at *Sunderland* By whom made *G. Clark Ltd*when made *do*Boilers made at *do* By whom made *do*when made *do*

Registered Horse Power

Owners *Agostino & Co. Anon. di Nav.*Port belonging to *Genoa*Nom. Horse Power as per Section 28 *807*Is Refrigerating Machinery fitted for cargo purposes *do*Is Electric Light fitted *yes*ENGINES, &c.—Description of Engines *Vertical Triple Expansion fitted* No. of Cylinders *Six* No. of Cranks *Six*Dia. of Cylinders *24" 39" 64"* Length of Stroke *45"* Revs. per minute *90* Dia. of Screw shaft *as per rule 13.45* Material of screw shaft *as fitted 13.45*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 tightin 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *—* If twoliners are fitted, is the shaft lapped or protected between the liners *—* Length of stern bush *4' 7"*Dia. of Tunnel shaft *as per rule 12.05* Dia. of Crank shaft journals *as per rule 12.65* Dia. of Crank pin *13"* Size of Crank webs *8' 8 1/2"* Dia. of thrust shaft undercollars *13 1/4"* Dia. of screw *16' 3"* Pitch of Screw *18' 0"* No. of Blades *3* State whether moveable *yes* Total surface *65.3 sq*No. of Feed pumps *two duplex* Diameter of ditto *10" C.V.S.* Stroke *12"* Can one be overhauled while the other is at work *yes*No. of Bilge pumps *2 on each engine* Diameter of ditto *4 1/4"* Stroke *26"* Can one be overhauled while the other is at work *yes*No. of Donkey Engines *two* Sizes of Pumps *11 x 12 x 11 BALLAST FEED 9 x 6 x 10* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *four 3 1/2" dia* In Holds, &c. *two 3 1/2" dia in each + 1 in tunnel*No. of Bilge Injections *2 sizes 8"* Connected to condenser, or to circulating pumps *yes* Is a separate Donkey Suction fitted in Engine room & size *yes 5" dia*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 *no*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 *steam pipes to forward boilers* How are they protected *steel trunk way*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 *20.2.07* of Stern Tube *25.2.07* Screw shaft and Propeller *11.3.07*Is the Screw Shaft Tunnel watertight *yes* Is it fitted with a watertight doors *yes* worked from *top platform*BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Spencer & Sons Ltd Newburn Steel Works*Total Heating Surface of Boilers *12280* Is Forced Draft fitted *yes* No. and Description of Boilers *four single ended multibubblers*Working Pressure *180 lb* Tested by hydraulic pressure to *360 lb* Date of test *19.2.07* No. of Certificate *2578*Can each boiler be worked separately *yes* Area of fire grate in each boiler *71 sq* No. and Description of Safety Valves toeach boiler *two direct spring* Area of each valve *12.56 sq* Pressure to which they are adjusted *185 lb* Are they fitted with easing gear *yes*Smallest distance between boilers or uptakes and bunkers or woodwork *12"* Mean dia. of boilers *6' 3 1/2"* Length *2' 0"* Material of shell plates *steel*Thickness *31/64"* Range of tensile strength *284 to 332 TONS* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *lap butt*long. seams *5/16" 1/4" 5/16"* Diameter of rivet holes in long. seams *1 1/8"* Pitch of rivets *9 1/16"* Lap of plates or width of butt straps *19 1/8"*Per centages of strength of longitudinal joint *90.4* Working pressure of shell by rules *186.5* Size of manhole in shell *16 x 13*Size of compensating ring *9' x 1 1/8"* No. and Description of Furnaces in each boiler *three bulbous* Material *steel* Outside diameter *50 1/2"*Length of plain part *top* Thickness of plates *bottom* Description of longitudinal joint *weld* No. of strengthening rings *—*Working pressure of furnace by the rules *199* Combustion chamber plates: Material *steel* Thickness: Sides *11/16"* Back *11/16"* Top *13/16"* Bottom *15/16"*Pitch of stays to ditto: Sides *8 3/4" x 10"* Back *9 3/4" x 9 1/4"* Top *—* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *185 lb*Material of stays *steel* Diameter at smallest part *1 1/8"* Area supported by each stay *47.5* Working pressure by rules *209* End plates in steam space:Material *steel* Thickness *1 1/16"* Pitch of stays *22 1/2" x 14"* How are stays secured *nuts* Working pressure by rules *194* Material of stays *steel*Diameter at smallest part *3.03"* Area supported by each stay *380* Working pressure by rules *189* Material of Front plates at bottom *steel*Thickness *3/4"* Material of Lower back plate *steel* Thickness *5/8"* Greatest pitch of stays *15 to 16"* Working pressure of plate by rules *188*Diameter of tubes *2 1/2"* Pitch of tubes *3 1/4" 3 5/8"* Material of tube plates *steel* Thickness: Front *31/32"* Back *3/32"* Mean pitch of stays *9.4"*Pitch across wide water spaces *13 1/2"* Working pressures by rules *185 lb* Girders to Chamber tops: Material *steel* Depth andthickness of girder at centre *13" 19 1/2" 1 1/2"* Length as per rule *—* Distance apart *—* Number and pitch of stays in each *—*Working pressure by rules *—* Superheater or Steam chest; how connected to boiler *—* Can the superheater be shut off and the boiler workedseparately *—* Diameter *—* Length *—* Thickness of shell plates *—* Material *—* Description of longitudinal joint *—* Diam. of rivetholes *—* 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 *—*

Im. 46.—T.

Lloyd's Register Foundation

W893-0081

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 main boilers 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:—*4 steel propeller blades, 1 propeller shaft, 1 throw crank shaft, 3 each bolts & nuts for top & bottom side & main bearings, 2 sets of coupling bolts, sets of valves for all pumps, top & bottom side bearings, piston springs, condenser & boiler tubes, bolts and sundries.*

The foregoing is a correct description,

FOR GEORGE CLARK LIMITED.

Manufacturer. *of Engine & Main Boiler.*

Dates of Survey while building { During progress of work in shops— 1906: Oct 10, 12, 14, 26, 30, Nov 2, 7, 8, 9, 14, 15, 19, 21, 23, 26, 29, 30, Dec 3, 6, 10, 11, 13, 17, 19, 21, 28, — 07
During erection on board vessel — 5, 9, 9, 11, 14, 15, 18, 22, 24, 28, 30, 31, Feb 1, 4, 6, 8, 12, 18, 19, 20, 25, Mar 1, 4, 7, 11, 13, 18, 20, Apr 6, 12, 19, 23, building
Total No. of visits 64 May 7, 9, 16, 22, Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders _____ Slides 14.1.07 Covers _____ Pistons 28.1.07 Rods 14.11.06
Connecting rods 28.12.06 Crank shaft 14.11.06 Thrust shaft 9.11.06 Tunnel shafts 19.12.06 Screw shaft 9.1.07 Propeller 28.12.06
Stern tube 6.2.07 Steam pipes tested { 28.12.06 20.3.07 6.4.07 12.4.07 19.4.07 Engine and boiler seatings 18.3.07 Engines holding down bolts 7.3.07
Completion of pumping arrangements 19.4.07 Boilers fixed 18.3.07 Engines tried under steam 19.4.07
Main boiler safety valves adjusted 19.4.07 Thickness of adjusting washers PORT STARBOARD PORT STARBOARD
Material of Crank shaft S.M. IN 507 Identification Mark on Do. 596 756 305 C. PA. PA E.J.S. Material of Thrust shaft S.M. IN 507 Identification Mark on Do. 873 8 PA
Material of Tunnel shafts 4 { 536 3.5 876 7.9 986 984.5 3123 3698 PA PA PA H.H. M.H. Material of Screw shafts S.M. IN 507 Identification Marks on Do. 837 874.5 3 PA
Material of Steam Pipes 6 length welded iron solid drawn copper 6 dia 2 w.s. 9" 02 w.s. Test pressure 540 lb on iron & 400 lb on copper

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

The machinery is similar to that fitted on board the Turin S.S. Red Italia report no. 23207.

The machinery of this vessel has been constructed under special survey, the materials & workmanship found good & efficient, fitted & tested in accordance with the rules & eligible in my opinion for classification with record of + L.M.C. 5.07.

It is submitted that this vessel is eligible for THE RECORD.

L.M.C. 5.07
Elec light
F.D.

14.6.07
14/6/07

The amount of Entry Fee.. £ 3 : : When applied for, 13.6.1907
Special .. £ 60 : 7 :
Donkey Boiler Fee .. £ : : When received, 19.6.07
Travelling Expenses (if any) £ : :
19.6.07

E. J. Stoddart
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned

TUES. 18 JUN 1907
+ L.M.C. 5.07
F.D. Elec light

MACHINERY CERTIFICATE WRITTEN.

Lloyd's Register Foundation

Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)