

REPORT ON MACHINERY.

No. 22552
(mdt) 4345Port of SunderlandReceived at London Office 22nd Dec^r 1905No. in Survey held at SunderlandDate, first Survey 17th August 05Last Survey 1st Dec^r 1905

Reg. Book.

10 Supp on the Steel Screw Steamer "IRENE"(Number of Visits 23)Master A. GervickBuilt at StocktonBy whom built Craig Taylor & CoTons { Gross 3453.51
Net 2348.39
When built 1905Engines made at SunderlandBy whom made North Eastern Marine Eng. Co. Ltd.when made 1905Boilers made at SunderlandBy whom made North Eastern Marine Eng. Co. Ltd.when made 1905

Registered Horse Power

Owners { Unione Austriaco di Navigazione
Austro-Americana & Fratelli Conestabile
Societa AnonimaPort belonging to TriesteNom. Horse Power as per Section 28 347Is Refrigerating Machinery fitted for cargo purposes noIs Electric Light fitted no

ENGINES, &c.—Description of Engines

Triple ExpansionNo. of Cylinders ThreeNo. of Cranks ThreeDia. of Cylinders 24-40-65 Length of Stroke 45 Revs. per minute 44Dia. of Screw shaft as per rule 13.43 Material of Iron
as fitted 13.5 screw shaftIs 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 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 4-8Dia. of Tunnel shaft as per rule 12.03 Dia. of Crank shaft journals as per rule 12.04
as fitted 12.4 as fitted 12.3 Dia. of Crank pin 12.3 Size of Crank webs 8x19.5 Dia. of thrust shaft undercollars 12.3 Dia. of screw 16-3 Pitch of screw 16-0 No. of blades four State whether moveable no Total surface 80 sqNo. of Feed pumps Two Diameter of ditto 3.5 Stroke 21 Can one be overhauled while the other is at work yesNo. of Bilge pumps Two Diameter of ditto 4 Stroke 21 Can one be overhauled while the other is at work yesNo. of Donkey Engines Two Sizes of Pumps 8x10x10 — 4.5x4.5x4 No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room Three 3.5 In Holds, &c. Two of 3.5 in each holdOne of 3.5 in hold well & one of 3.5 in tunnel wellNo. of bilge injections one sizes 5 Connected to condenser, or to circulating pump yes Is a separate donkey suction fitted in Engine room & size one 3Are 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 noneAre all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks bothAre 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 aboveAre 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 yesWhat 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 yesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock New vessel Is the screw shaft tunnel watertight yesIs it fitted with a watertight door yes worked from Top platform

BOILERS, &c.—

(Letter for record S)Total Heating Surface of Boilers 4918 sqIs forced draft fitted yesNo. and Description of Boilers Two, single Ended, Cyl^r & Mult^r Working Pressure 180 lb Tested by hydraulic pressure to 360 lbDate of test 13/11/05 Can each boiler be worked separately yes Area of fire grate in each boiler 61 sq No. and Description of safety valves toeach boiler Two, direct spring Area of each valve 8.29 sq Pressure to which they are adjusted 185 lb Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 18 Radius dia. of boilers 14-9.5 Length 11-6 Material of shell plates steelThickness 1.5 Range of tensile strength 29.5 Are they welded or flanged no Descrip. of riveting: cir. seams Lap & R long. seams 5/8-TRDiameter of rivet holes in long. seams 1.4 Pitch of rivets 9.5 Lap of plates or width of butt straps 18.5Per centages of strength of longitudinal joint rivets 84.1 Working pressure of shell by rules 180.5 lb Size of manhole in shell 16x12Size of compensating ring 4x1.5 No. and Description of Furnaces in each boiler Three, single Material steel Outside diameter 47.5Length of plain part top — bottom — Thickness of plates crown 3.9 Description of longitudinal joint Weld No. of strengthening rings —Working pressure of furnace by the rules 85.5 lb Combustion chamber plates: Material steel Thickness: Sides 3.5 Back 3.5 Top 3.5 Bottom 1.5Pitch of stays to ditto: Sides 12.5x9 Back 11x10.5 Top 12.5x9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180.3 lbMaterial of stays steel Diameter at smallest part 1.5 Area supported by each stay 116.5 Working pressure by rules 84.1 lb End plates in steam space:Material steel Thickness 1.5 Pitch of stays 2.5x20.5 How are stays secured DN & W Working pressure by rules 180.7 lb Material of stays steelDiameter at smallest part 3.5 Area supported by each stay 56.3 Working pressure by rules 80.7 lb Material of Front plates at bottom steelThickness 1.3 Material of Lower back plate steel Thickness 1 Greatest pitch of stays 14.8x10.5 Working pressure of plate by rules 81.7 lbDiameter of tubes 2.5 Pitch of tubes 3.5x3.5 Material of tube plates steel Thickness: Front 1.3 Back 1.3 Mean pitch of stays 7.5Pitch across wide water spaces 1.3 Working pressures by rules 208 lb Girders to Chamber tops: Material steel Depth andthickness of girder at centre 8.5x2 Length as per rule 29.4 Distance apart 12.5 Number and pitch of Stays in each Two 9Working pressure by rules 192.5 lb 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 —

DONKEY BOILER— No. Description *See report (5) attached.*

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 _____ 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 _____ 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:— *One set of coupling bolts & nuts, for each top end, bottom end & main bearing bolts & nuts one set each feed & helix pump valves, one propeller shaft & propeller. spare iron etc.*

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING CO. LTD. Manufacturer.

Walter Beattie Esq. J.M.

Dates { During progress of work in shops - - } 1905 Aug. 17, 28, 31, Sept. 8, 14, Oct. 12, 16, 18, 19, 22, 23, 27, 30, Nov. 2, 7, 9, 13, 20, 22, 24
 { During erection on board vessel - - } 27, 29, Dec. 1, (Mdb) Nov. 13, 15, Dec. 8, 11, 13, 14, 22
 building { Total No. of visits 23 (Mdb) 4 } Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " "

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

The Machinery of this Vessel has been constructed under special survey the material & workmanship sound & good the Boiler & steam pipes have been tested by hydraulic pressure in accordance with the Rules, the machinery worked satisfactorily at manovring & the safety valves have been adjusted to their working pressure under steam.

*This Vessel is Eligible in our opinion to have the Notation * L.M.C. 12-05 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD

L.M.C. 12.05 F.D.

The amount of Entry Fee... £ 3 : : When applied for, 7.12.1905
 Special ... £ 37 : :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : : When received, 15.12.1905

FRI. 29 DEC 1905

Committee's Minute

Assigned

+ L.M.C. 12.05

F.D.

MACHINERY CERTIFICATE WRITTEN.



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Lloyd's Register Foundation

Dates { During work of Survey while building }
 Total

No. in Survey he Reg. Book.

Supp on the De

Master

Engines made at

Boilers made at

Registered Horse P

MULTITUBU

Letter for record

Boilers

No. of Certificate

safety valves to each

Are they fitted with

Smallest distance be

Material of shell p

Descrip. of riveting

Lap of plates or w

rules

boiler

Description of longi

plates: Material

Top If st

smallest part

Pitch of stays

Area supported by

Lower back plate

Pitch of tubes

water spaces

girder at centre

Working pressure

separately

holes Pitch

If stiffened with ri

Working pressure

VERTICAL

Made at Stoe

Working pressure

No. of safety valce

enter the donkey bo

strength $2\frac{1}{32}$ L

Lap of plating 4

Radius of do. 3'

Thickness of furn

plates $2\frac{1}{32}$

The fo