

REPORT ON MACHINERY. 3221

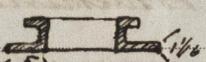
No. **3221** Port of **Falmouth** Received at London Office **10** 1889
 No. in Survey held at **Falmouth** Date, first Survey **8th November** Last Survey **5th October** 1889
 Reg. Book. on the **S. S. "NARCISO DEULOFEU"** (Number of Visits **Almost daily**) Tons **59^{1/2}**
 Master **Cap. Lawrence** Built at **Falmouth** By whom built **Box & Co** When built **1889. 10**
 Engines made at **Falmouth** By whom made **Box & Co** when made **1889-10**
 Boilers made at **Falmouth** By whom made **Box & Co** when made **1889-10**
 Nominal Horse Power **74.42** per formula Registered Horse Power **68 1/2** Owners **R. A. Barker** Port belonging to **Liverpool**

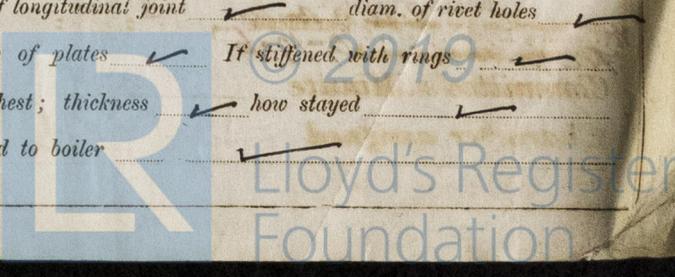
ENGINES, &c.—

(Triple expansion)

Description of Engines **Vertical Inverted Tri Compound Surface Condensing**
 Diameter of Cylinders **14", 22", 43 1/2"** Length of Stroke **22"** No. of Rev. per minute **132** Point of Cut off, High Pressure **1 1/2** Middle Pressure **13 1/8** Low Pressure **13 1/16**
 Diameter of Screw shaft **7 1/2"** Diam. of Tunnel shaft **6 5/8"** Diam. of Crank shaft journals **4"** Diam. of Crank pin **4"** size of Crank webs **8 1/2" x 4 3/4"**
 Diameter of screw **8 1/2"** Pitch of screw **Var. 11 ft mean** No. of blades **4** state whether moveable **Yes** total surface **24.25 sq ft**
 No. of Feed pumps **One** diameter of ditto **2 3/4"** Stroke **9"** Can one be overhauled while the other is at work
 No. of Bilge pumps **One** diameter of ditto **3"** Stroke **9"** Can one be overhauled while the other is at work
 Where do they pump from **Fore and After Holds, Engine & Boiler Room**
 No. of Donkey Engines **Two** Size of Pumps **Feed. 2" x 3 1/2", St 5" 1/2" 5" 1/2" 5" 1/2"** Where do they pump from **Fore and Aft Holds, Engine and Boiler Room, Sea, Fore and After Ballast Tanks.**
 Are all the bilge suction pipes fitted with roses **Yes** Are the roses always accessible **Yes** Are the sluices on Engine room bulkheads always accessible **Yes**
 No. of bilge injections **One** and sizes **4"** Are they connected to condenser, or to circulating pump **Circulating Pump**
 How are the pumps worked **Beams & Links, Mid Press, Air & Feed; Low Press, Circulating and Bilge**
 Are all connections with the sea direct on the skin of the ship **Yes** Are they Valves or Cocks **Valves & 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 **Fore Hold Suction, Bilge & Ballast Tank** How are they protected **Wrought Iron Casing**
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times **Yes**
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges **Yes**
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock **12th August 1889.**
 Is the screw shaft tunnel watertight **No tunnel** and fitted with a sluice door worked from

BOILERS, &c.—

Number of Boilers **One** Description **Cylindrical Multitubular** Whether Steel or Iron **Steel**
 Working Pressure **150 lbs** Tested by hydraulic pressure to **300** Date of test **17th July 1889**
 Description of superheating apparatus or steam chest **None fitted** Heating Surface **1267 sq ft**
 Can each boiler be worked separately Can the superheater be shut off and the boiler worked separately
 No. of square feet of fire grate surface in each boiler **38 1/2 sq ft** Description of safety valves **Cox's Spring Lipped** No. to each boiler **Two**
 Area of each valve **7.06 sq"** Are they fitted with easing gear **Yes** No. of safety valves to superheater area of each valve
 Are they fitted with easing gear Smallest distance between boilers and bunkers or woodwork **4 1/2"** Diameter of boilers **11'-6" diam.**
 Length of boilers **9'-11 1/2"** description of riveting of shell long. seams **Double Riv. 8 to 8.5** circum. seams **Double Riv. Zigzag** Thickness of shell plates **15/16"**
 Diameter of rivet holes **1 1/16"** whether punched or drilled **Drilled** pitch of rivets **3 3/4" & 4 1/2"** Lap of plating **1 1/4" Stagger**
 Percentage of strength of longitudinal joint **86** working pressure of shell by rules **152** size of manholes in shell **16" x 12"**
 Size of compensating rings  **5" x 1 1/16"** No. of Furnaces in each boiler **Two**
 Outside diameter **3'-6 1/2"** length, top **7'-0"** bottom **7'-0"** thickness of plates **1 1/32"** description of joint **Fox's Corrugated** if rings are fitted
 Greatest length between rings working pressure of furnace by the rules **150** combustion chamber plating, thickness, sides **1 1/32"** back **9/16"** top **9/16"**
 Pitch of stays to ditto, sides **7"** back **8"** top **4 1/2"** If stays are fitted with nuts or riveted heads **Nuts & Rivets** working pressure of plating by rules **177** Diameter of stays at smallest part **1 1/32"** working pressure of ditto by rules **153** end plates in steam space, thickness **3/4"**
 Pitch of stays to ditto **15"** how stays are secured **Nuts in & outside in doubling plate** working pressure by rules **162** diameter of stays at smallest part **2.465"** working pressure by rules **190** Front plates at bottom, thickness **3/4"** Back plates, thickness **2/32"**
 Greatest pitch of stays **8"** working pressure by rules **172.5** Diameter of tubes **3 1/2" outside** pitch of tubes **4 3/4"** thickness of tube plates, front **3/4"** back **3/4"** how stayed **Stay Tubes** pitch of stays **9 1/2" x 1 1/4"** width of water spaces **5 1/2" to 1 1/3"**
 Diameter of Superheater or Steam chest length thickness of plates description of longitudinal joint diam. of rivet holes
 Pitch of rivets working pressure of shell by rules diameter of flue thickness of plates If stiffened with rings
 Distance between rings working pressure by rules end plates of superheater, or steam chest; thickness how stayed
 Superheater or steam chest; how connected to boiler



FAL135-0052

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 _____ if fitted with easing gear _____ if steam from main boilers can enter the donkey boiler _____ diameter of donkey boiler _____ length _____ description of riveting _____
 Thickness of shell plates _____ diameter of rivet holes _____ whether punched or drilled _____ pitch of rivets _____ lap of plating _____
 per centage of strength of joint _____ thickness of crown plates _____ stayed by _____
 Diameter of furnace, top _____ bottom _____ length of furnace _____ thickness of 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 plates _____ thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *2 Connecting rod. Top end bolts & nuts. 2 ditto bottom end. 2 main bearing bolts. 1 set coupling bolts. 1 set feed and bilge pump valves. 1 set L.P. Piston springs. A quantity of bolts & nuts, iron of various sizes. 1 set air pump valves. 2 sets Air Pump valves. 2 Propeller blades. 1 set A.P. & M.P. rings & springs for pistons. Spare S.V. springs. do Escape V. springs. 1 set fire bars. 1 set connect rod brasses.*
 The foregoing is a correct description,
Cor & Co Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.) *The Machinery and Boiler has been built under special survey, and my constant inspection from commencement to completion, I have every reason to believe the materials used to be of the best quality, the workmanship is good throughout. The feed and steam pipes have been tested to 300 lbs per sq in water pressure and showed no appearance of weakness or bad workmanship. Sessions Patent valve gear is fitted to operate slide valves. The general arrangement throughout is good. All the steel plates of the boiler have been examined, and the marks thereon found to correspond with certificates of tests and analyses. Safety valves have been set to lift at 150 lbs \square and lift freely at that pressure, showing about 2% accumulation with 4" evaporation from full glass during 20 minutes full firing. Piston & rod Turbo Electric Dynamo and Engine are fitted with steam from main boiler, on starboard side of Eng room for one search light and an installation of incandescent lamps throughout vessel. A centrifugal 8" discharge pump is fitted on deck for salvage purposes and appears to work with good efficiency. On trial the machinery worked well with but slight vibration and no heated bearings.*

All parts are fitted in accordance with the rules of the Society. I am of opinion that the Machinery and Boiler are fit for class-ification in the Society's Register. I therefore beg to submit for the Committee's approval that a Machinery certificate be granted and that the certification **L.M.C.** be made in the Society's Register Book from this date *JMBD.*

* *brass shaft forged & made at Harvey & Co Hayle Fee & travelling expense £1-11-6 paid 24th June 1889* } It is submitted that this vessel is eligible to have + L.M.C. 10-89 recorded - *W.D. 10-10-89.*

The amount of Entry Fee .. £ 1 : 0 : received by me £ 1-11-6 ... 24th June 89
 Special .. £ 11 : 3 : 8th Oct 89 (12-8-0 ... 8th Oct 89
 Donkey Boiler Fee .. £ : : *JMBD.*
 Certificate (if required) .. £ 2 : 6 1889
 To be sent as per margin. *Set of Rules 2 : 6*
 * Travelling Expenses, if any, £ *9-19-6*
 Fee for forging *9-19-6*
 Committee's Minute *Machine Writen.*

Charles M. B. Syer
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

FRIDAY 11 OCT 1889 FRIDAY 18 OCT 1889

+ RMB 10/89



as usual g.c. 24/10/89 - ...