

# REPORT ON MACHINERY.

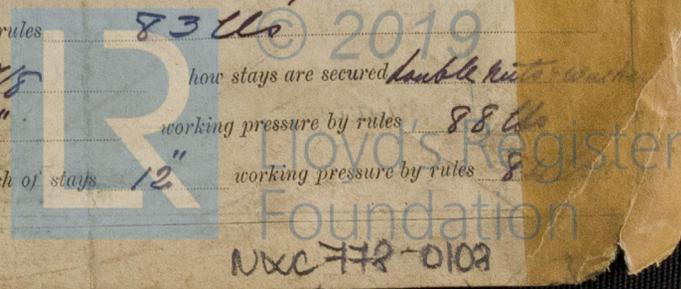
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(Received in London Office 11/9/88)

32  
 Survey held at Newcastle Date, first Survey 9 April 1888 Last Survey 22 April 1881  
 on the Iron Screw Steamer "Huntingdon" Tons 2224  
Hindes Built at Newcastle When built 1881  
 made at Newcastle By whom made R & W Hawthorn when made 1881  
 made at do By whom made do when made 1881  
 Horse Power 275 Owners J. D. Milburn Port belonging to London

VES, &c.—  
 Kind of Engines Inverted Compound Surface condensing  
 of Cylinders 26 & 68 Length of Stroke 42 No. of Rev. per minute 60 Point of Cut off, High Pressure .6 Low Pressure .2  
 of Screw shaft 12" Diameter of Tunnel shaft 11" Diameter of Crank shaft journals 12" Diameter of Crank pin 12" size of Crank webs 1 1/2 x 7 1/2  
 of screw 16-3 Pitch of screw 16 1/2-6-20 1/2 No. of blades 4 state whether moveable no total surface 80 Sq ft  
 Feed pumps 2 diameter of ditto 3 3/4" Stroke 21 Can one be overhauled while the other is at work yes  
 Bilge pumps 2 diameter of ditto 3 3/4" Stroke 21 Can one be overhauled while the other is at work yes  
 do they pump from Fore hold, engine space, after hold, tunnel well & all the tanks  
 Donkey Engines Two Size of Pumps 8 x 14 1/2 x 8 Where do they pump from Fore hold, engine space  
Fore hold, tunnel well, all the tanks and from the Sea Condenser  
 the bilge suction pipes fitted with roses yes Are the roses always accessible yes Are the sluices on Engine room bulkheads always accessible yes  
 Bilge injections 1 and sizes 4" Are they connected to condenser, or to circulating pump no  
 do the pumps worked Lever from 4 T Cylinder over condenser  
 connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves & Cocks  
 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  
 has 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  
 leaded through the bunkers none How are they protected —  
 cocks, valves, and pumps in connection with the machinery accessible at all times yes  
 cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges yes  
 tube, propeller, screw shaft, and all connections examined in dry dock new  
 shaft tunnel watertight yes and fitted with a sluice door yes worked from Top engine room Platform

Boilers Two Description Cylindrical, return tubes, "Steel" Boilers  
 Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 15th February 1886  
 of superheating apparatus or steam chest none  
 boiler be worked separately yes Can the superheater be shut off and the boiler worked separately —  
 square feet of fire grate surface in each boiler 42 Sq ft Description of safety valves Spring Adams Patent  
 each boiler 2 area of each valve 14 Sq inch Are they fitted with easing gear yes  
 safety valves to superheater — area of each valve — are they fitted with easing gear —  
 distance between boilers and bunkers or woodwork 12 inches  
 of boilers 4-6 Length of boilers 10-3 description of riveting of shell long. seams Triple Lap circum. seams Double Lap  
 of shell plates 2 3/32 diameter of rivet holes 1 1/8" whether punched or drilled drilled pitch of rivets 4 1/2  
 plating 9 1/2 per centage of strength of longitudinal joint 75% working pressure of shell by rules 81 lbs  
 manholes in shell 15" x 12" size of compensating rings 30" x 24" x 1 1/16"  
 Furnaces in each boiler 3 outside diameter 41" length, top 6'-9" bottom 9'-3"  
 of plates 1/8" & 9/16" description of joint Single Strap if rings are fitted no greatest length between rings —  
 pressure of furnace by the rules 87 lbs  
 chamber plating, thickness, sides 1/2" back 1/2" top 1/2"  
 stays to ditto — sides 9/16" back 9/16" top curved to 2 1/2" radius  
 are fitted with nuts or riveted heads nuts working pressure of plating by rules 90 lbs  
 of stays at smallest part 1 1/16" working pressure of ditto by rules 83 lbs  
 stays in steam space, thickness 1 3/16" pitch of stays to ditto 15-7/8" how stays are secured double nuts & washers  
 pressure by rules 107 lbs diameter of stays at smallest part 1 7/8" working pressure by rules 88 lbs  
 stays at bottom, thickness 9/8" Back plates, thickness 9/8" greatest pitch of stays 12" working pressure by rules 88 lbs



Diameter of boiler  $12\frac{1}{2}$  pitch of stays  $19\frac{1}{2} \times 19\frac{1}{2}$  thickness of tube plates, front  $\frac{1}{16}$  back  $\frac{1}{16}$   
 Diameter of Superheater or Steam chest  $8\frac{1}{2}$  length  $10$   
 Thickness of plates  $\frac{1}{16}$  description of longitudinal joint  $\frac{1}{16}$  diameter of rivet holes  $\frac{1}{16}$  pitch of rivets  $\frac{1}{16}$   
 Working pressure of shell by rules  $80$  Diameter of flue  $8\frac{1}{2}$  thickness of plates  $\frac{1}{16}$   
 If stiffened with rings  $10$  distance between rings  $10$  Working pressure by rules  $80$   
 End plates of superheater, or steam chest; thickness  $\frac{1}{16}$  How stayed  $\frac{1}{16}$   
 Superheater or steam chest; how connected to boiler  $\frac{1}{16}$

**DONKEY BOILER**— Description *vertical cylindrical*  
 Made at *Newcastle* By whom made *Clark Chapman & Gurney* made *22<sup>nd</sup> November 1880*  
 Where fixed *Stockport* Working pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* No. of Certificate *586*  
 Fire grate area *21.5 sq. ft.* Description of safety valves *Spring* No. of safety valves *one* area of each *11<sup>th</sup> inch*  
 with easing *yes* If steam from main boilers can enter the donkey boiler *no*  
 Diameter of donkey boiler *6-0* length *16-6* description of riveting *Double Lap*  
 thickness of shell plates  $\frac{1}{16}$  diameter of rivet holes  $\frac{1}{8}$  whether punched or drilled *punched*  
 pitch of rivets  $3\frac{1}{4}$  lap of plating  $3\frac{1}{8}$  per centage of strength of joint *75*  
 thickness of crown plates  $\frac{9}{16}$  stayed by *Washed to 5<sup>th</sup> radius & 6 Stays 1<sup>1</sup>/<sub>2</sub> diameter*  
 Diameter of furnace, top *4-9* bottom *5-5* length of furnace *5-3*  
 thickness of plates  $\frac{9}{16}$  description of joint *6 Stays 1<sup>1</sup>/<sub>2</sub> diameter (Single Lap)*  
 thickness of furnace crown plates  $\frac{9}{16}$  stayed by  $\frac{9}{16}$   
 Working pressure of shell by rules *79 lbs* working pressure of furnace by rules *80 lbs*  
 diameter of uptake *16* thickness of plates  $\frac{3}{8}$  thickness of water tubes  $\frac{3}{8}$

The foregoing is a correct description of *Inquis & Noctus* of which *W. M. Hawthorn* are Manufacturers — who have nothing of Register from *Dun...*

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

The machinery of this vessel has been specially *examined* during construction. The materials and workmanship are *sound and satisfactory* and eligible in my opinion to have the notation *of Lloyd's M.C.* in the *Lloyd's Register Books.*

The amount of Entry  $\pounds 3 : - : -$  received by me, *W.M.*  
 Special  $\pounds 33 : 15 : -$   
 Certificate (if required)  $\pounds - : - : -$  *July 1881*  
 Committee's Minute *12/4/81 18*  
*Lloyd's*

*John Brockat*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

