

REPORT ON MACHINERY.

No. 4111

Port of MIDDLESBROUGH-ON-TEES

Received at London Office

1905

19

No. in Survey held at StocktonDate, first Survey 3rd October Last Survey 3rd April 1905

Reg. Book.

Supplement on the

Steel S.S. "Blacktor."(Number of Visits 40)Gross 50/8.47Net 19.32.27When built 1905Master W. Harper Built at Stockton By whom built Harper & SonEngines made at Stockton By whom made Blair & Co. Ltdwhen made 1905Boilers made at Stockton By whom made Blair & Co. Ltdwhen made 1905Registered Horse Power 280Owners H. N. HolmanPort belonging to LondonNom. Horse Power as per Section 28 280Is Refrigerating Machinery fitted for cargo purposes No.Is Electric Light fitted No.

ENGINES, &c.—Description of Engines

Tip exp. direct actingNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 23½ - 39 - 64 Length of Stroke 42 Revs. per minute 57Dia. of Screw shaft as per rule 13.46 Material of W. Ironas fitted 14½ 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 Yes

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 Yes

If two

liners are fitted, is the shaft lapped or protected between the liners YesLength of stern bush 5-1Dia. of Tunnel shaft as per rule 11.67Dia. of Crank shaft journals as per rule 12.25Dia. of Crank pin 13½Size of Crank webs 20½ x 8½ Dia. of thrust shaft undercollars 13½ Dia. of screw 17-0 Pitch of screw 16½No. of blades 4 State whether moveable NoTotal surface 78 ftNo. of Feed pumps 2Diameter of ditto 3Stroke 30Can one be overhauled while the other is at work YesNo. of Bilge pumps 2Diameter of ditto 4½Stroke 30Can one be overhauled while the other is at work YesNo. of Donkey Engines TwoSizes of Pumps Feed 4x8 Baller 9x10

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three, 3" diameterIn Holds, &c. Two each hold 3" diameterNo. of bilge injections 1 sizes 6½Connected to condenser, or to circulating pump YesIs a separate donkey suction fitted in Engine room & size Yes 4"Are all the bilge suction pipes fitted with roses YesAre the roses in Engine room always accessible YesAre the sluices on Engine room bulkheads always accessible YesAre all connections with the sea direct on the skin of the ship YesAre they Valves or Cocks BothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates YesAre 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 YesAre the blow off cocks fitted with a spigot and brass covering plate YesWhat pipes are carried through the bunkers NoneHow are they protected YesAre 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 Yes Is the screw shaft tunnel watertight YesIs it fitted with a watertight door Yesworked from Top platform

BOILERS, &c.—

(Letter for record A)Total Heating Surface of Boilers 4200 ftIs forced draft fitted NoNo. and Description of Boilers Two Cyl. Tubular, single endedWorking Pressure 180 lbTested by hydraulic pressure to 360 lbsDate of test 3-12-04 Can each boiler be worked separately YesArea of fire grate in each boiler 59½ ft

No. and Description of safety valves to

each boiler Two, SpringArea of each valve 8.29 sqPressure to which they are adjusted 135 lbAre they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 17"Dia. of boilers 15-3Length 10-3Material of shell plates SteelThickness 1 7/16 Range of tensile strength 27,32Are they welded or flanged NoDescrip. of riveting: cir. seams 2 1/2 in long. seams 2 1/2 in longDiameter of rivet holes in long. seams 1 5/16Pitch of rivets 8 3/4Lap of plates or width of butt straps 1-7 1/4

Per centages of strength of longitudinal joint

rivets 87.5plate 8.5Working pressure of shell by rules 186.6 lbSize of manhole in shell 17 x 13Size of compensating ring 31-27 - 16 1/16No. and Description of Furnaces in each boiler 3 Brown'sMaterial SteelOutside diameter 3-6 1/2Length of plain part top 6-7bottom 6-7Thickness of plates 9/16Description of longitudinal joint weldedNo. of strengthening rings YesWorking pressure of furnace by the rules 191 lbCombustion chamber plates: Material SteelThickness: Sides 1 1/16Back 1 1/16Top 1 1/16Bottom 1 3/16Pitch of stays to ditto: Sides 9 1/2 x 8 1/4Back 9 1/4 x 8 1/2Top 9 1/2 x 9 1/2If stays are fitted with nuts or riveted heads NutsWorking pressure by rules 181 lbMaterial of stays IronDiameter at smallest part 1 9/16Area supported by each stay 90.2 sqWorking pressure by rules 193 lbEnd plates in steam space: YesMaterial SteelThickness 1 5/8Pitch of stays 19 1/8 x 15How are stays secured N & WWorking pressure by rules 214 lbMaterial of stays IronDiameter at smallest part 3"Area supported by each stay 286.8 sqWorking pressure by rules 184 lbMaterial of Front plates at bottom SteelThickness 1 1/2Greatest pitch of stays 15"Working pressure of plate by rules 190.8 lbDiameter of tubes 3 1/2Pitch of tubes 4 1/4 H. 4 1/2Material of tube plates SteelThickness: Front 1 1/32Back 1 1/16Mean pitch of stays 9 7/8Pitch across wide water spaces 14"Working pressures by rules 520 lbGirders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 7 x 15 1/8Length as per rule 26 1/4Distance apart 9 1/2Number and pitch of Stays in each Two 9 1/2Working pressure by rules 188 lbSuperheater or Steam chest; how connected to boiler Yes

Can the superheater be shut off and the boiler worked

separately YesDiameter YesLength YesThickness of shell plates YesMaterial YesDescription of longitudinal joint Yes

Diam. of rivet

holes YesPitch of rivets YesWorking pressure of shell by rules YesDiameter of flue YesMaterial of flue plates YesThickness YesHow stayed YesEnd plates: Thickness YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure by rules YesEnd plates: Thickness YesHow stayed YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure by rules YesEnd plates: Thickness YesHow stayed YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure by rules YesEnd plates: Thickness YesHow stayed YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure by rules YesEnd plates: Thickness YesHow stayed YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure by rules YesEnd plates: Thickness YesHow stayed YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure by rules YesEnd plates: Thickness YesHow stayed YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure by rules YesEnd plates: Thickness YesHow stayed YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure by rules YesEnd plates: Thickness YesHow stayed YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure by rules YesEnd plates: Thickness YesHow stayed YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear YesWorking pressure by rules YesEnd plates: Thickness YesHow stayed YesWorking pressure of end plates YesArea of safety valves to superheater YesAre they fitted with easing gear Yes

DONKEY BOILER— No. *One* Description *Cyl Mult. 2 plain furnaces*
 Made at *Stockton* By whom made *Niley Bros & Co* When made *1905* Where fixed *At the hole*
 Working pressure *90 lb* tested by hydraulic pressure to *180 lb* No. of Certificate *3368* Fire grate area *28.4* Description of safety valves *Spring*
 No. of safety valves *2* Area of each *7.07* Pressure to which they are adjusted *90 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *9'-6"* Length *9'-0"* Material of shell plates *Steel* Thickness *9/16"* Range of tensile strength *27/32* Descrip. of riveting long. seams *Lap both riv* Dia. of rivet holes *15/16* Whether punched or drilled *D* Pitch of rivets *4"*
 Lap of plating *6 1/2"* Per centage of strength of joint Rivets *7.8* Thickness of shell plates *13/16* Radius of do. *—* No. of Stays to do. *4*
 Dia. of stays *2 1/4"* Diameter of furnace Top *2'-11"* Bottom *7'-9"* Length of furnace *top 5'-10"* Thickness of furnace plates *17/32* Description of joint *Welded* Thickness of ~~furnace~~ crown plates *15 1/2" 5 1/2"* Stayed by *Screw stays* Working pressure of shell by rules *91.5 lb*
 Working pressure of furnace by rules *93.5 lb* Diameter of ~~bottom~~ *3 1/4"* Thickness of ~~bottom~~ plates *F 13/16" B 9/16"* Thickness of ~~stay~~ tubes *5/16"*

SPARE GEAR. State the articles supplied:— *Set of coupling bolts. Set of top & bottom and connecting rod bolts & nuts. Two main bearing bolts. Set of feed & bilge pump valves. A & M. P. piston rings & P piston springs. Main & Donkey feed check valves. Propeller, bolts & nut assorted.*

The foregoing is a correct description,

FOR BLAIR & CO., LIMITED.

Walter Borne

Manufacturer.

of main engine & boilers.

Dates During progress of work in shops— *1904 Oct 3-5-13-27-31 Nov 2-8-10-22-23-29 Dec 2-8-9-14-14-16-24 1905 Jan 6-11-14-18-19-24-26*
 of Survey During erection on board vessel— *Feb 1-6-8-10-15-17-20-20-22-27-27 Mar 14-20-29 Apr 3*
 while building Total No. of visits *Forty* Is the approved plan of main boiler forwarded herewith *No* *Yes*
 " " " donkey " " " *Yes*

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

*The machinery and boilers of this vessel have been constructed under special survey. The materials and workmanship are good & efficient, & when tested under steam were found satisfactory & in my opinion now eligible for the notification *LMC 4.05* in the Register Book.*

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

LMC 4.05.

JSM
13.4.05
13.4.05

The amount of Entry Fee. . . £ *2 : 0 : 0* When applied for, *11.4.1905*
 Special . . . £ *34 : 0 : 0*
 Donkey Boiler Fee . . . £ : : When received, *11.4.1905*
 Travelling Expenses (if any) £ : : *11.4.1905*

Committee's Minute

FRI. 14 APR 1905

Assigned

+ LMC 4.05

MACHINERY CERTIFICATE
 WRITTEN

Geo. C. Milner
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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