

REPORT ON MACHINERY

THUR. 23 AUG 1900

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office

18

No. in Survey held at Stockton
Reg. Book.Date, first Survey 20th Sept: 99 Last Survey 16th Aug 1900
(Number of Visits 62)Tons { Gross 3149.3
Net 2019.on the S. S. "Acis."Master Thos. Tate Built at Stockton By whom built Ropner & SonWhen built 1900.Engines made at Stockton By whom made Blair & Coy L^d when made 1900.Boilers made at Stockton By whom made Blair & Coy L^d when made 1900.Registered Horse Power 220. Owners Newman, Dale & Co L^d Port belonging to LondonNom. Horse Power as per Section 28 273 Is Refrigerating Machinery fitted No Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3. No. of Cranks 3.
 Dia. of Cylinders 23 1/2, 39 & 64" Length of Stroke 42" Revs. per minute 58 Dia. of Screw shaft as per rule 11.7
 Dia. of Tunnel shaft as per rule 10.6 Dia. of Crank shaft journals as per rule 11.2 Dia. of Crank pin 13 1/4" Size of Crank web 20 1/2 x 8 5/8 Dia. of thrust shaft under collars 13 1/4" Dia. of screw 17'-0" Pitch of screw 16'-6" No. of blades 4. State whether moveable Yes Total surface 78 sq. ft.
 No. of Feed pumps 2. Diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2. Diameter of ditto 4 1/2" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2. Sizes of Pumps 19x10" F. 4x8" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three Centre 3 1/2" wings 3" dia. in Holds, &c. Fore, in mainmast holds two in each 3" diameter. Tunnel Well 2 1/2" dia.
 No. of bilge injections 1. sizes 6 1/4" Connected to condenser, or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size Yes 4"
 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 None
 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 — How are they protected —
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock on stocks Is the screw shaft tunnel watertight see ship rep.
 Is it fitted with a watertight door Yes worked from upper platform

OILERS, &c.— (Letter for record (S)) Total Heating Surface of Boilers 4200 sq. ft. Is forced draft fitted No
 No. and Description of Boilers 2. S. E. Multitubular Working Pressure 160 lb Tested by hydraulic pressure to 320 lb
 Date of test 10.7.00 Can each boiler be worked separately Yes Area of fire grate in each boiler 60 sq. ft. No. and Description of safety valves to each boiler 2. Act. Spring Area of each valve 8.29" Pressure to which they are adjusted 165 lb Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 20" p. side outside Mean dia. of boilers 15-3" Length 10'-3" Material of shell plates S.
 Thickness 1 3/16" Range of tensile strength 27-32 Are they welded or flanged No Descrip. of riveting: cir. seams d. & lap long. seams d. butt str
 Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8" x 4" Lap of plates & width of butt straps 6 1/2" & 17 7/8"
 Per centages of strength of longitudinal joint 86.7 Working pressure of shell by rules 167 lb Size of manhole in shell 17' x 13"
 Size of compensating ring 31 x 27 x 1 3/16" No. and Description of Furnaces in each boiler 3. Morions Material S. Outside diameter 46"
 Length of plain part 6'-6" Thickness of plates 8 1/2" Description of longitudinal joint weld No. of strengthening rings —
 Working pressure of furnace by the rules 177 lb Combustion chamber plates: Material S. Thickness: Sides 7/8" Back 7/8" Top 7/8" Bottom 1"
 Pitch of stays to ditto: Side 9 1/2" x 9 1/2" Back 9 1/2" x 9 1/2" Top 9 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 176 lb
 Material of stays S. Diameter at smallest part 1 9/16" Area supported by each stay 92.6" Working pressure by rules 186 lb End plates in steam space:
 Material S. Thickness 1 5/32" Pitch of stays 19 x 20" How are stays secured d. nuts Working pressure by rules 166 lb Material of stays S.
 Diameter at smallest part 2 7/8" Area supported by each stay 380" Working pressure by rules 170 lb Material of Front plates at bottom S.
 Thickness 1" Material of Lower back plate S. Thickness 1 1/8" Greatest pitch of stays 14" Working pressure of plate by rules 249 lb
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 7/8" Material of tube plates S Thickness: Front 1" Back 1 1/8" Mean pitch of stays 9 7/8"
 Pitch across wide water spaces 14" Working pressures by rules 196 lb Girders to Chamber tops: Material S. Depth and thickness of girder at centre 7' x 15 7/8" Length as per rule 27 1/4" Distance apart 9 1/2" Number and pitch of Stays in each 2. 9 1/2"
 Working pressure by rules 171 lb Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately —
 Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes —
 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 BOILERS No. 2. Description Vertical with 2 tubes
 Made at Stockton By whom made Riley Bros When made 13.7.00 Where fixed Stockhold
 Working pressure 160 lb tested by hydraulic pressure to 320 lb No. of Certificate S 2250 Fire grate area 18 Description of safety valves d. Spring
 No. of safety valves 1 each of each 9.625" Pressure to which they are adjusted 160 lb If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 5' 6" Length 12' 0" Material of shell plates S Thickness 19/32 Range of tensile strength 27-32 Descrip. of riveting long. seams d. butt str. Dia. of rivet holes 7/8 Whether punched or drilled d. Pitch of rivets 3 3/4
 Lap of plating 5 Per centage of strength of joint 76.7 Thickness of shell crown plates 5/8 Radius of do. 5 ft. No. of Stays to do. 6
 Dia. of stays 2 Diameter of furnace Top 4' 5" Bottom 4' 10 3/4" Length of furnace 4' 7" Thickness of furnace plates 1/2 Description of joint Lap d. r. at both Thickness of furnace crown plates 5/8 Stayed by as above Working pressure of shell by rules 192 lb
 Working pressure of furnace by rules 160 lb Diameter of uptake 13" Thickness of uptake plates 1/2 Thickness of water tubes 3/8
 by screw stamp

SPARE GEAR. State the articles supplied:—

Propeller. —
Top and bottom end bolts & nuts. Main bearing
coupling bolts and nuts. Fed. bilge and
donkey pump valves. Bolts & nuts —

The foregoing is a correct description,

FOR BLAIR & CO., LIMITED.

Manufacturers of Engines and Main Boilers

Walter Borne

Dates of Survey while building
 During progress of work in shops — 1899, Sept: 20, 25, Oct: 3, 6, 17, 23, 30 Nov: 2, 13, 16, 27, 30 Dec: 5, 12, 1900 Jan: 5, 15, 24, 29 Feb: 2, 9, 16, 23, 28 Mar: 5, 12, 21, 27 Apr: 5, 9, 19, 24 May: 3, 12, 22 June: 7, 14, 19, 22, 29, 30 July: 2, 3, 4, 9, 10, 11, 13, 14, 15, 16 Aug: 7, 22, 13, 14, 15, 16
 During erection on board vessel —
 Total No. of visits (62) 18, 23, 25, 31 Aug: 7, 22, 13, 14, 15, 16
 Is the approved plan of main boiler forwarded herewith Blair
 " " " donkey " " " No plan

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

These engines and boilers have been built
and tested as required by the Society's Rules
for Special Survey and are of good
workmanship and materials, they have
been well fitted and secured on board the vessel
and on completion tried under steam at moorings
with satisfactory results.

The machinery is now
in my opinion in a good and efficient
working condition and eligible to the
notation of: **†. L. M. C. 8. 00. —**

It is submitted that
 this vessel is eligible for
 THE RECORD. **†. L. M. C. 8. 00.**

23. 8. 00
23. 8. 00

The amount of Entry Fee. £ 2 : : :
 Special £ 33 : 13 : :
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ : : :
 When applied for, 21. 8. 1900
 When received, 21. 8. 1900

Committee's Minute

Assigned

FRI. 24 AUG 1900

†. L. M. C. 8. 00

R. J. M. Sanderson

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



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Foundation