

REPORT ON MACHINERY.

TUES. AUG 27 1901

Port of *Sunderland & Middlesbrough*

Received at London Office

18

No. in Survey held at *Sunderland &*
Reg. Book.

Date, first Survey

28th May 1900

Last Survey

27th July 1901

Number of Visits

26

Gross

5189

Net

*2696*on the *Steel Screw Steamer "Burgermeister Hackmann"*

Tons

Master *D. Gerdan* Built at *Stockton* By whom built *Craig, Taylor & Co*When built *1901*Engines made at *Sunderland* By whom made *Richardsons Westgarth & Co* When made *1901*Boilers made at *"* By whom made *"* when made *1901*Registered Horse Power Owners *J. J. Siemens & Co*Port belonging to *Hamburg*Nom. Horse Power as per Section 28 *359* 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" - 38 1/2" - 68"* Length of Stroke *48"* Revs. per minute *65* Dia. of Screw shaft as per rule *13.31"* as fitted *10.5"* Lgth. of stern bush *4' 7"*
 Dia. of Tunnel shaft as per rule *12.04"* as fitted *12.25"* Dia. of Crank shaft journals as per rule *12.67"* as fitted *13.0"* Dia. of Crank pin *13.0"* Size of Crank webs *19 x 8 1/2"* Dia. of thrust shaft under collars *13"* Dia. of screw *17' 0"* Pitch of screw *17' 0"* No. of blades *4* State whether moveable *No* Total surface *55 sq ft*
 No. of Feed pumps *2* Diameter of ditto *3 3/4"* Stroke *27"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *4"* Stroke *27"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *Two* Sizes of Pumps *10 1/2 x 11" & 4 x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *3 of 3 1/2"* In Holds, &c. *2 of 3 1/2" in each*

No. of bilge injections *1* sizes *5"* Connected to condenser, or to circulating pump *CR* 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 *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 *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 5*
 Is it fitted with a watertight door *yes* worked from *upper platform*

OILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *5480 sq ft* Is forced draft fitted *No*
 No. and Description of Boilers *3 Ordinary Marine* Working Pressure *20 lbs* Tested by hydraulic pressure to *400 lbs*
 Date of test *11/2/01* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *47 sq ft* No. and Description of safety valves to each boiler *2 Spring* Area of each valve *7.07 sq ft* Pressure to which they are adjusted *200 lbs* Are they fitted with easing gear *Yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *2' 6"* Mean dia. of boilers *13' 3 1/4"* Length *10' 6"* Material of shell plates *S*
 Thickness *1 3/8"* Range of tensile strength *28/32* Are they welded or flanged *No* Descrip. of riveting: cir. seams *D.R.L* long. seams *T.R.D.B.*
 Diameter of rivet holes in long. seams *1 1/32"* Pitch of rivets *9"* Lap of plates or width of butt straps *16 1/2"*
 Per centages of strength of longitudinal joint rivets *85.17* plate *85.07* Working pressure of shell by rules *232 lbs* Size of manhole in shell *16 x 12"*
 Size of compensating ring *Flanged* No. and Description of Furnaces in each boiler *3 Morrison* Material *S* Outside diameter *3' 8 3/4"*
 Length of plain part top *U* bottom *U* Thickness of plates crown *9 1/16"* Description of longitudinal joint *Welded* No. of strengthening rings *✓*
 Working pressure of furnace by the rules *20 lbs* Combustion chamber plates: Material *S* Thickness: Sides *7/8"* Back *7/8"* Top *7/8"* Bottom *3/4"*
 Pitch of stays to ditto: Sides *8 x 8"* Back *8 x 8"* Top *8 x 8"* If stays are fitted with nuts or riveted heads *N.Y.W.* Working pressure by rules *20 lbs*
 Material of stays *S Area* at smallest part *1.788 sq ft* Area supported by each stay *64 sq ft* Working pressure by rules *25 1/2 lbs* End plates in steam space:
 Material *S* Thickness *1 3/32"* Pitch of stays *16 1/2" x 14 1/2"* How are stays secured *N. D. B.* Working pressure by rules *222 lbs* Material of stays *S*
 at smallest part *61 sq ft* Area supported by each stay *240 sq ft* Working pressure by rules *263 lbs* Material of Front plates at bottom *S*
 Thickness *3/4"* Material of Lower back plate *S* Thickness *3/4"* Greatest pitch of stays *14" x 8"* Working pressure of plate by rules *236 lbs*
 Diameter of tubes *3 3/4"* Pitch of tubes *4 7/8" x 4 7/8"* Material of tube plates *S* Thickness: Front *3/4"* Back *3/4"* Mean pitch of stays *8 7/8" x 8 7/2"*
 Pitch across wide water spaces *13 1/2"* Working pressures by rules *232 lbs* Girders to Chamber tops: Material *S* Depth and
 thickness of girder at centre *9" x 1 1/2"* Length as per rule *28 3/4"* Distance apart *8"* Number and pitch of Stays in each *2 of 8"*
 Working pressure by rules *25 lbs* 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 *✓*

NO DONKEY BOILER—

No. Description
 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:—

Two top & bottom end, main bearing
 & a set of coupling ~~light~~ ~~to the~~. ~~Set~~ of air, circ. feed
 & bridge pump valves. Propeller & tail shaft. A pair of top
 & bottom end brasses. Assorted bolts, nuts, & iron.

The foregoing is a correct description,

Manufacturer.

RICHARDSONS, WESTLARK & CO., LTD.

Frederick Russell

CHIEF DRAUGHTSMAN

Dates During progress of work in shops— 1900— May 28. June 13. July 24. Nov. 8. 12. Dec. 3. 11. 13. 17. 1901—
 of Survey During erection on board vessel— Jan. 9. 21. 24. Feb. 6. 11. 13. 20. 26. 28. Mar. 5. 7. 18. 21. July 19. 20. 27.
 while building Total No. of visits 26. ~~Mid. June 7. 14. 19. July 2. Aug. 2.~~ Is the approved plan of main boiler forwarded herewith Yes.
 " " " " " " " " " " " "

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

Material of screw shaft Is the screw shaft fitted with a continuous liner the whole length of the stern tube
 Is the after end of the liner made water tight in the propeller boss If the liner is in more than one length are the joints burned
 If the liner does not fit tightly at the port between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive
 If two liners are fitted, is the shaft lapped or protected between the liners

The machinery & boilers of this vessel have been built under Special Survey. The materials & workmanship are good & efficient
 The main boilers & steam pipes have been tested by water to twice the working pressure.
 All machinery examined under steam at working pressure & found satisfactory.
 In our opinion this vessel is worthy of the notation of + L.M.C 8.01 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C 8.01

The amount of Entry Fee. £ 3 : = : When applied for, 13.8.1901
 Special £ 37 : 19 : When received, 18/9/01
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : : 18

Committee's Minute

FRI. AUG 30 1901

Assigned

+ L.M.C 8.01

MACHINERY CERTIFICATE WRITTEN.



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Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)