

REPORT ON MACHINERY.

1518

MON 15 JAN 1890

No. 1518

No. in Survey held at *Hamburg*
By. Book. *S. S. Osiris*
on the

Date, first Survey *February 16. 89* Last Survey *December 30. 1889*
(Number of Visits) *42*

Master *By whom built* *Hamburg* *Blohm & Voß* Tons *42*
Engines made at *Hamburg* By whom made *Blohm & Voß* When built *1889*
Boilers made at *do* By whom made *do* when made *1889*
Registered Horse Power *300* Owners *Deutsche Dampfsch. Ges. HAMBURG* Port belonging to *Hamburg*

ENGINES, &c.—

Description of Engines *Triple Expansion, Surface Condensing on three cranks.*
Diameter of Cylinders *23 3/4, 38, 63* Length of Stroke *42* No. of Rev. per minute *76* Point of Cut off, High Pressure *.6* *Indum. 6*
Diameter of Screw shaft *12 3/8* Diam. of Tunnel shaft *11 7/8* Diam. of Crank shaft journals *12 3/8* Diam. of Crank pin *12 3/8* size of Crank webs *27 1/2 x 8 1/2* *Low Pressure .55*
Diameter of screw *15.9* Pitch of screw *16.0* No. of blades *4* state whether moveable *no* total surface *60 sq. ft.*
No. of Feed pumps *2* diameter of ditto *3* Stroke *25 1/2* Can one be overhauled while the other is at work *yes*
No. of Bilge pumps *2* diameter of ditto *3 7/8* Stroke *25 1/2* Can one be overhauled while the other is at work *yes*
Where do they pump from *all holds, all bilges & tanks & sea, deliver overboard on deck, into closed tanks*
No. of Donkey Engines *1* *Steam pump* Size of Pumps *2 1/2* *act pumps 4 dia. 6 inch* Where do they pump from *Pump from all holds, tanks, bilges*
hotwell and sea, delivers overboard on deck, into Boilers, Pulsometer pumps from all tanks and bilges
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 *7 diam.* Are they connected to condenser, or to circulating pump *to circulating pump.*
How are the pumps worked *by levers from crosshead of intermediate engine.*
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 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 *December 28th 1889*
Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *Cylinder platform.*

BOILERS, &c.—

Number of Boilers *2* Description *Cylindrical multitubular* Whether Steel or Iron *Steel (S)*
Working Pressure *165 lbs.* Tested by hydraulic pressure to *330 lbs.* Date of test *November 8th 1889*
Description of superheating apparatus or steam chest *Vertical cylindrical domes.*
Can each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *no*
No. of square feet of fire grate surface in each boiler *65 sq. ft.* Description of safety valves *Spring* No. to each boiler *2*
Area of each valve *9 sq. in.* 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 *24* Diameter of boilers *14.6*
Length of boilers *10.6* description of riveting of shell long. seams *dbl. butt. str. butt. circum. seams* *lap dble. rivets* Thickness of shell plates *1 5/16*
Diameter of rivet holes *1 1/4* whether punched or drilled *drilled* pitch of rivets *3 7/16* Lap of plating *10 3/8*
Per centage of strength of longitudinal joint *87 1/2* working pressure of shell by rules *170 lbs.* size of manholes in shell *12 x 16*
Size of compensating rings *8 x 1 5/16* No. of Furnaces in each boiler *3 corrugated*
Outside diameter *3.9 1/4* length, top *7.1* bottom *9.7 1/2* thickness of plates *19/32* description of joint *welded* if rings are fitted *no*
Greatest length between rings *—* working pressure of furnace by the rules *165.7* combustion chamber plating, thickness, sides *9/16* back *9/16* top *9/16*
Pitch of stays to ditto, sides *7 5/8* back *7 5/8* top *12 3/4* If stays are fitted with nuts or riveted heads *with nuts* working pressure of plating by rules *167 lbs.*
Diameter of stays at smallest part *1 1/4* working pressure of ditto by rules *168 lbs.* end plates in steam space, thickness *15/16*
Pitch of stays to ditto *13 3/4 x 14 1/2* how stays are secured *by double nuts* working pressure by rules *176 lbs.* diameter of stays at smallest part *2 1/4*
Greatest pitch of stays *13* working pressure by rules *180 lbs.* Front plates at bottom, thickness *13/16* Back plates, thickness *15/16*
Plates, front *7/8* back *7/8* how stayed *stay tubes* pitch of stays *9 x 9* width of water spaces *6*
Diameter of Superheater or Steam chest *36* length *4.0* thickness of plates *9/16* description of longitudinal joint *lap dble. rivets* diam. of rivet holes *15/16*
Pitch of rivets *3 7/16* working pressure of shell by rules *207 lbs.* diameter of flue *—* thickness of plates *—* It stiffened with rings *—*
Distance between rings *—* working pressure by rules *—* end plates of superheater, or steam chest; thickness *7/8* how stayed *dished*
Superheater or steam chest; how connected to boiler *by welded neck 16 1/2 in. 1 thick*

HAM 1118-0009

Register Foundation

DONKEY BOILER Description *horizontal cylindrical multitubular combustion chamber built in*
 Made at *Hamburg* by whom made *Blotnick & Söhne* when made *1889* where fixed on *Main Deck*
 Working pressure *85* tested by hydraulic pressure to *170 lbs.* No. of Certificate *Dub. 239* fire grate area *18 sq. ft.* description of safety
 valves *Spring* No. of safety valves *2* area of each *2 3/4 sq. in.* if fitted with easing gear *yes* if steam from main boilers can
 enter the donkey boiler *no* diameter of donkey boiler *7.6 1/2* length *6.6 3/4* description of riveting *lap well rivetted*
 Thickness of shell plates *1/2* diameter of rivet holes *1 1/16* whether punched or drilled *drilled* pitch of rivets *4 3/4* lap of plating *8 3/4*
 per centage of strength of joint *75%* thickness of crown plates *3/4* stayed by *stays 2 1/4* lbs. *13 3/4* pitch and stay tubes
 Diameter of furnace, top *43* bottom *—* length of furnace *6.6 3/4* thickness of plates *3/8* description of joint *lap single rivetted*
 Thickness of *dome shell* furnace crown plates *1/2* stayed by *dome crown plate dished 1/2* thick. working pressure of shell by rules *89 lbs.*
 Working pressure of furnace by rules *130 lbs.* diameter of uptake *3 1/4* thickness of plates *—* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *1 Propellor, 1 Propellor shaft, 1 crankshaft, 1 air-1 circul. pump*
rod, 3 valve spindles, 100 firebars Main Bls. 100. 8 1/2. 20 tubes Main Bls. 100. 8 1/2. 20
tubes, 40 ferrules, 2 valves for feed pumps, 2 sets check valves for Bls., 1 valve & seat for bilge pumps,
1 set air, 1 set circul. pump valves, 1 air pump bucket 1 pair brasses for connecting rod top & bottom end & main
 The foregoing is a correct description, *bearings each 2 balls for conn. rod top & bottom end & main*
Manufacturer. many minor things more balls nuts rivets, iron of various
sizes & plates assorted

General Remarks (State quality of workmanship, opinions as to class, &c. *Materials and Workmanship*
of these engines and Boilers are of first class quality, the outfit
is ample and substantial. I attended a very successful trial
trip at which the engines worked satisfactory and gave good
results.

The safety valves of main and Donkey Boilers were
found correctly adjusted to 165 lbs. and 85 lbs. respectively.
The copies of invoices of the Steel Boiler plates signed by
the Testing Officers are in my hands. Forging certificate
of crankshaft is returned herewith. a Forging Certificate
of the straight shafts supplied by the Mersey Forge of
Liverpool has not been received at this office.

The heating surface of the Main Boilers is 3880 sq. ft.
I beg to recommend that this Vessel be classed in
the Register Book and that LMC 12, 89 be entered

It is submitted that this
vessel is eligible to have
+ LMC 12, 89 recorded

MD
13.1.90

The amount of Entry Fee £ *3: 0: 0* received by me,
 Special £ *32: 18: 0*
 Donkey Boiler Fee £ *2: 2: 0*
 Certificate (if required) £ *5: 0: 0* 9/1 1890
 To be sent as per margin.

(Travelling Expenses, if any, £ *—*)

Committee's Minute **TUES 27 JAN 1890**

+ LMC 12 189

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



Lloyd's Register
 Foundation