

# REPORT ON MACHINERY.

No. 6328

Port of *Belfast*

Received at London Office **THUR. JUL 4 1907**

No. in Survey held at *Belfast*

Date, first Survey *6 June 1906* Last Survey *28 June 1907*

Reg. Book.

on the *S.S. "Praha"*

(Number of Visits *43*)

Master

Built at *Belfast*

By whom built *Holland & Moffatt*

Tons Gross *3756*

Net *2311*

When built *1907*

Engines made at *Belfast*

By whom made

when made *1907*

Boilers made at

By whom made

when made

Registered Horse Power

Owners *Eller Dempster & Co*

Port belonging to *Liverpool*

Nom. Horse Power as per Section 28 *528*

Is Refrigerating Machinery fitted for cargo purposes *No*

Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Triple Expansion*

No. of Cylinders *3*

No. of Cranks *3*

Dia. of Cylinders *26-44-44* Length of Stroke *48*

Revs. per minute *76*

Dia. of Screw shaft

as per rule *14.98*

Material of *S. Steel*

Is 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 *Yes*

Length of stern bush *63"*

Dia. of Tunnel shaft

as per rule *13.7*

Dia. of Crank shaft journals

as per rule *14.38*

Dia. of Crank pin *15"*

Size of Crank web *21 x 10 3/4*

Dia. of thrust shaft under

collars *14 3/4*

Dia. of screw *17 1/8*

Pitch of Screw *18'-0"*

No. of Blades *4*

State whether moveable *Yes*

Total surface *84 1/2 sq ft.*

No. of Feed pumps *2*

Diameter of ditto *4 1/2*

Stroke *28*

Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *2*

Diameter of ditto *4*

Stroke *28*

Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *4*

Sizes of Pumps *8 x 10 1/2 x 18*

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

*4 - 3 1/2" & 4 - 3"*

In Engine Room *3 - 3 1/2"*

*Verticals 9 x 8 1/2*

No. of Bilge Injections / sizes *8"*

Connected to condenser, or to circulating pump *By a separate Donkey Suction fitted in Engine room & size 3 1/2"*

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 *Below*

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 *Fore hold suction*

How are they protected *Wood casing*

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*

Dates of examination of completion of fitting of Sea Connections *7-3-07*

of Stern Tube *7-3-07*

Screw shaft and Propeller *7-3-07*

Is the Screw Shaft Tunnel watertight *Stated to be fitted with a watertight door*

worked from *Upper deck*

BOILERS, &c.—(Letter for record *Yes*)

Manufacturers of Steel *Edwards & Sons*

Total Heating Surface of Boilers *7396 sq ft*

Exposed Draft fitted *Yes*

No. and Description of Boilers *3 - Single End Cylinders*

Working Pressure *205 lbs*

tested by hydraulic pressure to *410 lbs*

Date of test *17-5-17*

No. of Certificate *400*

Can each boiler be worked separately *Yes*

Area of fire grate in each boiler *55 1/2 sq ft*

No. and Description of Safety Valves to each boiler *2 - Rivet Pumps*

Smallest distance between boilers or uptakes and bunkers or woodwork *About 5" clear dia. of boilers*

Length *11'-9"*

Material of shell plates *Steel*

Thickness *1 1/2"*

Range of tensile strength *29-32 tons*

Are the shell plates welded or flanged *No*

Description of riveting: cir. seams *L. Ribble*

long. seams *Butt Joints*

Diameter of rivet holes in long. seams *1 1/2"*

Pitch of rivets *9 1/2"*

Per centages of strength of longitudinal joint *94.4*

Working pressure of shell by rules *236 lbs*

Size of manhole in shell *16" x 12"*

No. and Description of Furnaces in each boiler *3 - Brauns Coward*

Length of plain part *9"*

Thickness of plates *2 1/2"*

Description of longitudinal joint *Weld*

No. of strengthening rings *7*

Working pressure of furnace by the rules *411 lbs*

Combustion chamber plates: Material *Steel*

Pitch of stays to ditto: Sides *7 1/2 x 7 1/2*

Back *7 1/2 x 7 1/2*

Top *7 1/2 x 7 1/2*

Bottom *7 1/2 x 7 1/2*

If stays are fitted with nuts or riveted heads *Nuts*

Working pressure by rules *209 lbs*

Material of stays *Steel*

Diameter at smallest part *1 1/8"*

Area supported by each stay *5 7/8"*

Working pressure by rules *232 lbs*

Material *Steel*

Thickness *1 1/2"*

Pitch of stays *8 1/2 x 15 1/4*

How are stays secured *Nuts*

Working pressure by rules *238 lbs*

Material of stays *Steel*

Diameter at smallest part *2 1/8"*

Area supported by each stay *28 1/2"*

Working pressure by rules *225 lbs*

Material of Front plates at bottom *Steel*

Thickness *1 1/2"*

Material of Lower back plate *Steel*

Thickness *1 1/2"*

Greatest pitch of stays *12 3/4"*

Working pressure of plate by rules *15 lbs*

Diameter of tubes *2 1/2"*

Pitch of tubes *3 1/2 x 3 1/2"*

Material of tube plates *Steel*

Thickness: Front *1 1/2"*

Back *1 1/2"*

Pitch across wide water spaces *13 1/2"*

Working pressures by rules *380 lbs*

Material *Iron*

Depth and thickness of girder at centre *9" x (7 x 2)*

Length as per rule *29 1/2"*

Distance apart *9 1/2"*

Number and pitch of stays in each *3 - 7 1/2"*

Working pressure by rules *215 lbs*

Superheater or Steam chest; how connected to boiler

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

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

W578-0135

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of S \_\_\_\_\_  
 Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_  
 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 \_\_\_\_\_ Plates \_\_\_\_\_  
 Working pressure of shell by rules \_\_\_\_\_ 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 \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_  
 Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— 2 Propeller blades, main crank pin bushes  
 4 P valve spindle. L.P. do. 2 Piston rings each cylinder, impeller for  
 centrifugal pump, air pump and bucket, Condenser tubes set  
 all seen to Lloyd's Register Extra. For Harland & Wolff Ltd

The foregoing is a correct description,  
 Manufacturer. *J.B.*

Dates of Survey while building  
 During progress of work in shops: 1906. June 6. Nov 27. Dec 5, 11, 17. Jan 4. 9, 25. Feb 1, 4, 7.  
 During erection on board vessel: 14. 20 March 1, 5, 6, 12, 22, 25, 26. April 5, 9 up to 28 June  
 Total No. of visits: 43  
 Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders 9 Slides / - 07 Covers " " " donkey " " " "  
 Connecting rods 21-5-07 Crank shaft 5 Thrust shaft 06 Tunnel shafts 5 Screw shaft 22-3-07  
 Stern tube 7-3-07 Steam pipes tested 24-5-07 Engine and boiler seatings 29-5-07 Engines holding down bolts 29-5-07  
 Completion of pumping arrangements 20-6-07 Boilers fixed 11-6-07 Engines tried under steam 18-6-07  
 Main boiler safety valves adjusted 18-6-07 Thickness of adjusting washers 12-13-07  
 Material of Crank shaft *1. Steel* Identification Mark on Do. *LLOYDS 7.5.13* Material of Thrust shaft *do* Identification Mark on Do. *do*  
 Material of Tunnel shafts *do* Identification Marks on Do. *do* Material of Screw shafts *do* Identification Marks on Do. *do*  
 Material of Steam Pipes *Solid Drawn Steel* Test pressure 650 lbs

General Remarks (State quality of workmanship, opinions as to class, &c.)  
 The machinery of this vessel, has been constructed under Special Survey, and in accordance with the Rules. The material and the workmanship are of good description throughout, and on trial under steam, the machinery worked satisfactorily. In my opinion, it is eligible for Record + L.M.C. 6-07 with notation Forced Draft & Electric Light.

This vessel's machinery is a duplicate of that fitted in the S.S. "Aurora" Sierra Leone & Palani.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 6-07. F.D. Elec light

The amount of Entry Fee.. £ 3 : - :  
 Special .. .. £ 46 : 8 :  
 Donkey Boiler Fee .. .. £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, 2-7-07  
 When received, 9-7-07

*J.P. Beveridge*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. 5 JUL 1907  
 Assigned + L.M.C. 6-07 F.D. Elec. Light MACHINERY CERTIFICATE WRITTEN.



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