

REPORT ON MACHINERY.

No. 6665
THUR. 16 SEP 1909

Port of Belfast
Survey held at Belfast
Book. J.B. Lucas & Co. Ltd.
on the Hauland & Wolff L.
Built at Belfast
By whom built Hauland & Wolff L.
When made 1909
Registered Horse Power 823
Is Refrigerating Machinery fitted for cargo purposes No
Is Electric Light fitted Yes
Description of Engines Triple Expansion
No. of Cylinders 8
No. of Cranks 8
Length of Stroke 48"
Revs. per minute 80
Dia. of Screw shaft 13 1/2"
Material of screw shaft Steel
Is the after end of the liner made water tight 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 Yes
When the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes
If two Yes
Length of stern bush 4'-6"
Dia. of Tunnel shaft 12 3/4"
Dia. of Crank shaft journals 12 3/4"
Dia. of Crank pin 13 1/2"
Size of Crank webs 24 1/2" x 9 1/2"
No. of Thrust shaft under 1
Dia. of screw 5'-10"
Pitch of screw 20'-3"
No. of Blades 3
State whether moveable Yes
Total surface 6 1/2 sq ft.
of Feed pumps Two
Can one be overhauled while the other is at work Yes
of Bilge pumps One
Diameter of ditto 28"
Can one be overhauled while the other is at work Yes
of Donkey Engines See above
No. and size of Suctions connected to both Bilge and Donkey pumps 9-3 1/2" 6-2 1/2"
In Holds, &c. 4-3 1/2" 4-2 1/2"
of Bilge Injections 2 sizes 8"
Connected to condenser, or to circulating pump Rump
Are the roses in Engine room always accessible Yes
Are the Discharge Pipes above or below the deep water line Both
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes
Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes
How are they protected Wood casing
Are all connections with the sea direct on the skin of the ship Yes
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes
That pipes are carried through the bunkers False welded suction
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 31/5/04
of Stern Tube 12/5/04
Screw shaft and Propeller 31/5/04
the Screw Shaft Tunnel watertight States & Co.
Is it fitted with a watertight door Yes
Manufacturers of Steel J. Colville & Sons L.
Boilers, &c. — (Letter for record 3)
Total Heating Surface of Boilers 9280 sq ft.
Forced Draft fitted No
Working Pressure 215 lbs
Tested by hydraulic pressure to 430 lbs
Date of test 28-4-04
No. of Certificate 418
Can each boiler be worked separately Yes
Area of fire grate in each boiler 135 sq ft.
No. and Description of Safety Valves to 2
Are they fitted with easing gear Yes
Each boiler Triple-Expansion
Pressure to which they are adjusted 215 lbs
Material of shell plates Steel
Smallest distance between boilers or uptakes and bunkers or woodwork About 5 ft.
Mean dia. of boilers 5'-6"
Length 19'-0"
Material of riveting: cir. seam Steel
Thickness 1 3/4"
Range of tensile strength 29-33 tons
Are the shell plates welded or flanged No
Descrip. of riveting: cir. seam Steel
long. seams Butt
Diameter of rivet holes in long. seams 1 3/8"
Pitch of rivets 10"
Length of plates on width of butt straps 23 1/2"
Per centages of strength of longitudinal joint 96%
Working pressure of shell by rules 249 lbs
Size of manhole in shell 16" x 12"
Size of compensating ring See above
No. and Description of Furnaces in each boiler 8 - Muesel
Material Steel
Outside diameter 45 1/2"
Length of plain part 9'
Thickness of plates 3 3/4"
Description of longitudinal joint Weld
No. of strengthening rings 27
Working pressure of furnace by the rules 239 lbs
Combustion chamber plates: Material Steel
Thickness: Sides 5 1/2"
Back 5 1/2"
Top 5 1/2"
Bottom 5 1/2"
Pitch of stays to ditto: Sides 8 x 7 1/2"
Back 8 x 7 1/2"
Top 8 x 7 1/2"
Bottom 8 x 7 1/2"
Material of stay Steel
Diameter at smallest part 1 1/2"
Area supported by each stay 62 sq in.
Working pressure by rules 227 lbs
Material of stays Steel
Material Steel
Thickness 1 3/4"
Pitch of stays 7 x 15 1/2"
How are stays secured Nuts & Washers
Working pressure by rules 217 lbs
Material of Front plates at bottom Steel
Diameter at smallest part 2 1/2"
Area supported by each stay 268 sq in.
Working pressure by rules 255 lbs
Working pressure of plate by rules 218 lbs
Thickness 14-15"
Material of Lower back plate Steel
Thickness 3 3/4"
Description of longitudinal joint Weld
No. of strengthening rings 27
Diameter of tubes 2 1/4"
Pitch of tubes 4" x 4"
Material of tube plate Steel
Thickness: Front 14-15"
Back 14-15"
Mean pitch of stays 8" x 8"
Pitch across wide water spaces 14"
Working pressures by rules 335 lbs
Girders to Chamber tops: Material Steel
Depth and thickness of girder at centre 9" x 7 1/2"
Length as per rule 49 1/2"
Distance apart 8' x 9"
Number and pitch of stays in each 6-7 1/2"
Working pressure by rules 296 lbs
Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately
Diameter See above
Length See above
Thickness of shell plates See above
Material See above
Description of longitudinal joint See above
Diam. of rivet See above
Pitch of rivets See above
Working pressure of shell by rules See above
Diameter of flue See above
Material of flue plates See above
Thickness See above
How stayed See above
If stiffened with rings See above
Distance between rings See above
Working pressure by rules See above
End plates: Thickness See above
Are they fitted with easing gear See above
Working pressure of end plates See above
Area of safety valves to superheater See above

Lloyd's Register
FW 98-0128

Manufacturers of Steel

SPARE GEAR. State the articles supplied:— Set crank pin boxes; even two & heavy & two
2 & side valves & pinholes; air pump with gaskets; main bearing bush; 3 & 2
piston rings; piston with gland, & keep bush; sets gear for auxiliary
pumps etc. and all gear to Lloyds Rules extra.

The foregoing is a correct description.

The foregoing is a correct description,
for Harland & Wolff Ltd

Manufacturer.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders		Covers		Pistons		Rods	
Connecting rods	13/6/04	Crank shaft	22/7/04	Thrust shaft	11/9/04	Tunnel shafts	11/9/04
Stern tube	1/9/04	Steam pipes tested	10/6/04	Engine and boiler seatings	22/7/04	Screw shaft	11/5/04
Completion of pumping arrangements	1/9/04	Boilers fixed	22/7/04	Engines holding down bolts	27/7/04	Propeller	1/4/04
Main boiler safety valves adjusted	18/8/04	Engines tried under steam	11/9/04	Thickens of adjusting washers	4-13 32		
Material of Crank shaft	J. Steel	Identification Mark on Do.	LLOYDS R.J.B. 11-5-04	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	W. Swan	Test pressure	645 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 workmanship and the materials are of good description throughout, and on trials under steam in Belfast Lough, the machinery worked satisfactorily. In my opinion it is capable for service + L.N.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 9.09

The amount of Entry Fee.	£	3	:	—	:	When applied for,
Special	£	61	:	3	:	11-9-19
Donkey Boiler Fee	£		:		:	When received,
Travelling Expenses (if any)	£		:		:	16/9/19

Committee's Minute

Assigned

FRI. 17 SEP 1909

+ Lmc 9.09

MACHINERY CERTIFICATE
WRITTEN

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

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Lloyd's Register
Foundation