

WED. DEC. 14 1921

REPORT ON MACHINERY

No. 8468

Received at London Office JAN 1922

of writing Report 19 When handed in at Local Office 19 Port of *Belfast*
in Survey held at *Belfast* Date, First Survey *Nov. 1921* Last Survey *January 3rd 1921*
Book. on the *Double Reduction Gearing Lubliner for G.W. Henderson & Co. S.S. HOGARTH.* (Number of Tons) Gross *8109* Net *5050*
ster Built at *Glasgow* By whom built *W. Henderson & Co.* When built *1921*
gines made at *Belfast* By whom made *Harland & Wolff Ld.* when made *1921*
ilers made at *Glasgow* By whom made *G.W. Henderson & Co. Ltd.* when made *1921*
gistered Horse Power Owners *Messrs Lamport & Holt* Port belonging to *Liverpool*
aft Horse Power at Full Power *3200* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*
ULE H.P. *758*

BINE ENGINES, &c.—Description of Engine *Double Reduction Gearing Lubliner* No. of Turbines *2*
eter of Rotor Shaft Journals, H.P. *3 1/2* L.P. *8* Diameter of Pinion Shaft *5 1/2*
eter of Journals *5 1/2* Distance between Centres of Bearings *2-8 1/2* Diameter of Pitch Circle *H.P. 8.9982*
eter of Wheel Shafts *13 1/2* Distance between Centres of Bearings *2-4 1/2* Diameter of Pitch Circle of Wheels *60.2022*
of Faggs *H.P. 18 1/2* Diameter of Thrust Shaft under Collars *15 1/2* Diameter of Tunnel Shaft *as per rule*
of Screw Shafts *Main shaft 15 1/2* Diameter of same *as fitted* Diameter of Propeller *as fitted* Pitch of Propeller
of Blades *State whether Moveable* Total Surface *Mean diameter of Rotor Drum, H.P. 17 1/2 L.P. 40 1/2*
ness at Bottom of Groove, H.P. *✓* L.P. *✓* Astern *✓* Revs. per Minute at Full Power, Turbine *H.P. 1752 L.P. 1752* Propeller *74*

PARTICULARS OF BLADING.

	H.P.			L.P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
EXPANSION	<i>1 1/2</i>	<i>19 1/2</i>	<i>2</i>	<i>2 1/2</i>	<i>47 1/2</i>	<i>1</i>	<i>H.P. 1 1/2</i>	<i>32 1/2</i>	<i>3</i>
"	<i>1 1/2</i>	<i>20 1/2</i>	<i>2</i>	<i>2 1/2</i>	<i>47 1/2</i>	<i>1</i>	<i>L.P. 1 1/2</i>	<i>57 1/2</i>	<i>3</i>
"	<i>1 1/2</i>	<i>20 1/2</i>	<i>2</i>	<i>3 1/2</i>	<i>48 1/2</i>	<i>1</i>	<i>" 2 1/2</i>	<i>56 1/2</i>	<i>2</i>
I.P.	<i>2 1/2</i>	<i>23 1/2</i>	<i>2</i>	<i>3 1/2</i>	<i>49 1/2</i>	<i>1</i>			
"	<i>2 1/2</i>	<i>24 1/2</i>	<i>1</i>	<i>4 1/2</i>	<i>50 1/2</i>	<i>1</i>			
"	<i>2 1/2</i>	<i>24 1/2</i>	<i>1</i>	<i>4 1/2</i>	<i>51 1/2</i>	<i>1</i>			
"	<i>2 1/2</i>	<i>24 1/2</i>	<i>1</i>	<i>5 1/2</i>	<i>52 1/2</i>	<i>1</i>			
"	<i>2 1/2</i>	<i>24 1/2</i>	<i>1</i>	<i>6 1/2</i>	<i>53 1/2</i>	<i>1</i>			
and size of Feed pumps	<i>3 1/2</i>	<i>25 1/2</i>	<i>1</i>	<i>7 1/2</i>	<i>54 1/2</i>	<i>1</i>			
and size of Bilge pumps	<i>3 1/2</i>	<i>25 1/2</i>	<i>1</i>	<i>8 1/2</i>	<i>55 1/2</i>	<i>1</i>			
and size of Bilge suction in Engine Room	<i>3 1/2</i>	<i>25 1/2</i>	<i>1</i>	<i>10</i>	<i>56 1/2</i>	<i>1</i>			
				<i>10</i>	<i>57 1/2</i>	<i>1</i>			
				<i>10</i>	<i>58 1/2</i>	<i>1</i>			
				<i>10</i>	<i>59 1/2</i>	<i>1</i>			
				<i>10</i>	<i>60 1/2</i>	<i>1</i>			

In Holds, &c.

of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine Room & size
all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible
all connections with the sea direct on the skin of the ship Are they Valves or Cocks
they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line
they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate
at pipes are carried through the bunkers How are they protected
all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges
the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

MILLERS, &c.—(Letter for record

Manufacturers of Steel

tal Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers
rking Pressure Tested by hydraulic pressure to Rate of test No. of Certificate
each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to
boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear
allest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates
ickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams
g. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps
centages of strength of longitudinal joint Working pressure of shell by rules Size of manhole in shell
e of compensating ring No. and Description of Furnaces in each Boiler Material Outside diameter
gth of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings
bottom Thickness of plates bottom
rking pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom
ch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules
terial of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space
terial Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays
meter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom
ickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules
meter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays
h across wide water spaces Working pressures by rules Girders to Chamber tops: Material
ickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each
rking pressure by rules Steam dome: description of joint to shell % of strength of joint Diameter of rivet holes Pitch of
ickness of shell plates Material Description of longitudinal joint Diameter of rivet holes Pitch of
Working pressure of shell by rules Crown plates: Thickness How stayed

W652-0163

SUPERHEATER. Type _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____
Date of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____
Diameter of Safety Valve _____ Pressure to which each is adjusted _____ Is Easing Gear fitted _____
If so, is a report now forwarded? _____

IS A DONKEY BOILER FITTED?

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,
For HARLAND & WOLFF Ltd. Manufacturer.

J. E. Hebble

1919 Nov. 7, 24. Dec. 16, Jan. 16, 22, Feb. 23, March 2, 29, April 13, 22, 27, 29, May 7, 11, 17, 20, 31, June 23, July 8, 22, 28,
Aug. 17, 23, 24, Sep. 6, 13, 16, 21, Oct. 1, 6, 22, Nov. 1, 4, 24, 27, Dec. 8, 9, 11, 18, 20, 21, 22, 1921 Jan. 3,
Dates of Survey while building { During progress of work in shops --
{ During erection on board vessel ---
Total No. of visits 143

Is the approved plan of main boiler forwarded herewith _____
" " " donkey " " " _____
" " " " " " _____
Dates of Examination of principal parts—Casings 1-10-20 Rotors 4-11-20 Blading 4-11-20 Gearing 27-12-20
Rotor shaft 23-8-20 Thrust shaft 21-12-20 Tunnel shafts _____ Screw shaft _____ Propeller _____
Stern tube _____ Steam pipes tested _____ Engine and boiler seatings _____ Engines holding down bolts _____
Completion of pumping arrangements _____ Boilers fixed _____ Engines tried under steam _____
Main boiler safety valves adjusted _____ Thickness of adjusting washers _____

Material and tensile strength of Rotor shaft *I. Steel 39.4 - 38.2*

Identification Mark on Do. 482 - 372

Material and tensile strength of Pinion shaft *I. Steel 42.8 - 40.4*

Identification Mark on Do. 888 - 894

Material of Wheel shaft *I. Steel* Identification Mark on Do. 898

Material of Thrust shaft *I. Steel* Identification Mark on Do. 7216, 4795

Material of Tunnel shafts _____ Identification Marks on Do. _____

Material of Screw shafts _____ Identification Marks on Do. _____

Material of Steam Pipes _____

Test pressure _____

Is an installation fitted for burning oil fuel _____

Is the flash point of the oil to be used over 150°F. _____

Have the requirements of Section 49 of the Rules been complied with _____

If so, state name of vessel _____

Is this machinery a duplicate of a previous case _____

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

These double reduction geared turbines have been constructed under Special
Licences, and in accordance with the Rules. An examination of the gearing
(which was cut by Parsons Marine S. Co.) after the shop trial, it was found
that the teeth of the Secondary Pinions and Wheels of both turbines had been
cut somewhat out of alignment. The builders have arranged to have the teeth
scraped or filed into correct alignment at Glasgow to the satisfaction of our Surveyors.
The workmanship, and the materials otherwise, are of good description.

The amount of Entry Fee ... £ 36 3 6

When applied for, _____

Special ... £ _____

Donkey Boiler Fee ... £ _____

Travelling Expenses (if any) £ _____

When received, _____

R. F. Bennett

Engineer Surveyor to Lloyd's Register of Shipping.

GLASGOW 13 DEC 1921

Surveyor's Minute

See Glasgow Report No. 41586



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Foundation