

REPORT ON MACHINERY.

No. 15861

Received at London Office

Writing Report

19

When handed in at Local Office

4/11

1921 Port of

Survey held at West Hartlepool

Date, First Survey 23rd Sept/19

Last Survey 31st Dec/1920

on the S.S. City of Glasgow (No 897)

(Number of Visits 141)

Tons { Gross 5321
Net 3401

W. Hill

Built at West Hartlepool by whom built Wm Gray & Co (1918) Ltd.

When built 1920

es made at West Hartlepool

By whom made Central Marine Engine Works Ltd when made 1920

s made at ditto

By whom made ditto when made 1920

ered Horse Power 630

Owners Ellerman (Hall) Line Ltd Port belonging to Liverpool

Horse Power at Full Power 3000

Is Refrigerating Machinery fitted for cargo purposes partly. Is Electric Light fitted Yes

INE ENGINES, &c.—Description of Engines Double reduction geared turbines of Turbines Two
of Rotor Shaft Journals, H.P. 4 1/2" L.P. 5 1/2" Diameter of Pinion Shaft 1st Red 6" HP 7431 2nd Red 13 1/2"
of Journals 4 1/2" x 10 1/2" Distance between Centres of Bearings 2nd Red 2-2 1/2" Diameter of Pitch Circle 1st Red 4P. 10.403 2nd Red 16.62"
of Wheel Shaft 15 1/2" Distance between Centres of Bearings 5-9 5/8" Diameter of Pitch Circle of Wheel 1st Red 56.688" 2nd Red 84.579"
of Face 1st Red 13 1/2" Diameter of Thrust Shaft under Collars 14 1/2" Diameter of Tunnel Shaft as per rule 13.02" as fitted 13 3/4"
Screw Shafts one Diameter of same as per rule 14.68" Contin. line Diameter of Propeller 18'-0" Pitch of Propeller 15'-0"
Blades 4 State whether Moveable yes Total Surface 112 sq. ft. Diameter of Rotor Drum, H.P. L.P. as stern
ss at Bottom of Groove, H.P. L.P. Astern Revs. per Minute at Full Power, Turbine H.P. 3379 L.P. 2414 Propeller 87.

ICULARS OF BLADING.

H.P. Impulse				L.P. Reaction				ASTERN.			
EXPANSION	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.		
1	1 3/4"	2'-7 1/2"	1	2 1/4"	2'-8 1/4"	4	1 1/4"	2'-7 5/8"	1	Impulse	H.P.
2	1 3/4"	2'-8 1/2"	1	2 1/4"	2'-9 5/8"	4	1 3/8"	2'-8 1/2"	1		
3	1 3/4"	2'-8 1/2"	1	3 5/8"	2'-11 1/4"	4	1 3/8"	3'-7 5/8"	1		
4	1 1/6"	2'-8 3/4"	1	2 5/8"	3'-9 9/16"	2	2 3/8"	3'-8 3/8"	1		
5	1 1/6"	2'-8 13/16"	1	3 3/8"	3'-11 3/8"	2	1 1/2"	2'-11 0 1/2"	1	Reaction	L.P.
6	1 1/6"	2'-8 3/4"	1	3 3/8"	4'-0 3/8"	1	2nd 1 13/16"	3'-0 11/16"	1		
7	2 1/4"	2'-8 13/16"	1	4 1/8"	4'-1 8/16"	1	3rd 2 9/16"	3'-1 5/5"	1		
8				5 1/2"	4'-3 6/16"	1	4th 2 9/16"	3'-1 5/5"	1		
9				6 5/8"	4'-5 8/16"	1	5th 2 9/16"	3'-1 5/5"	1		
10				6 5/8"	4'-5 8/16"	1					

nd size of Feed pumps 2 Weirs 12'4 9" x 21"

nd size of Bilge pumps 1 C.M.W. 5 1/2" x 6 1/2" x 15"

nd size of Bilge suction in Engine Room Four of 3 1/2" and two of 2" from oil wells.

In Holds, &c. Two of 3 1/2" in each hold. One of 3 1/2"

each cofferdam. One of 3" in tunnel well.

Bilge Injections one sizes 11" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine Room & size 3 1/2"

l the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes

ll connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both yes

ey 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 yes

ey 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

pipes are carried through the bunkers none How are they protected yes

ll Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

o Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes

Screw Shaft Tunnel watertight see ship report Is it fitted with a watertight door yes worked from upper grating

ERS, &c.—(Letter for record (S)) Manufacturers of Steel J Spencer & Sons Ltd. 3SB

Heating Surface of Boilers 79524 Is Forced Draft fitted yes No. and Description of Boilers (wing) Two, single ended

ing Pressure 225 lbs. Tested by hydraulic pressure to 450 lbs. Date of test 11-5-20 No. of Certificate 3572

ach boiler be worked separately yes Area of fire grate in each boiler 76.8545 No. and Description of Safety Valves to

oiler 2 direct spring Area of each valve 11.045 Pressure to which they are adjusted 230 lbs. Are they fitted with easing gear yes

est distance between boilers or uptakes and bunkers or woodwork 12 Mean dia. of boilers 16-4 1/2 Length 12-6 Material of shell plates Steel

ness 1 1/2 Range of tensile strength 28/30 Are the shell plates welded or flanged yes Descrip. of riveting: cir. seams J.R. Lap

seams J.R. D.B.S. Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 10 1/2 Lap of plates or width of butt straps 23 1/4

entages of strength of longitudinal joint rivets 90.4 Working pressure of shell by rules 227 lb Size of manhole in shell 16' x 20

f compensating ring 3'-1" x 2'-9" x 1 1/8 No. and Description of Furnaces in each Boiler 4 Deightons Material Steel Outside diameter 3'-9 1/2

h of plain part top crown 21" Description of longitudinal joint Welded No. of strengthening rings

ing pressure of furnace by the rules 235 Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 23/32 Top 23/32 Bottom 1"

of stays to ditto: Sides 9' x 8 1/2 Back 9' x 7 3/4 Top 9' x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 226

cial of stays Steel Area at smallest part 2.069 x 2.429 Area supported by each stay 7 1/4 x 12 1/2 Working pressure by rules 226 End plates in steam space

ial Steel Thickness 1 1/4 Pitch of stays 16' x 19" How are stays secured D. Nuts Working pressure by rules 226 Material of stays Steel

eter at smallest part 6.65 Area supported by each stay 16' x 19" Working pressure by rules 227 Material of Front plates at bottom Steel

tness 1 1/2 Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 15 1/4 x 7 3/4 Working pressure of plate by rules 226

eter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 3/4 Material of tube plates Steel Thickness: Front 1 3/32 Back 13/16 Mean pitch of stays 9 3/8

across wide water spaces 14" Working pressures by rules 234 Girders to Chamber tops: Material Steel Depth and

tness of girder at centre 1 3/4 Length as per rule 30 1/2 Distance apart 8 1/2 Number and pitch of stays in each Three 9"

rking pressure by rules 230 Steam dome: description of joint to shell none % of strength of joint Diameter

ickness of shell plates Material Description of longitudinal joint Diameter of rivet holes Pitch of rivets

orking pressure of shell by rules Crown plates: Thickness How stayed

004316-004320-0018

SUPERHEATER. Type *Schmidt's* Date of Approval of Plan *Manchester*

Tested by Hydraulic Pressure to

Date of Test *Manchester report.*

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *yes*

Diameter of Safety Valve *2"*

Pressure to which each is adjusted *235 lbs*

Is Easing Gear fitted *yes*

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:— *2 studs & nuts for each size of bearing of rotors, pinions gear wheel shafts. 1 set coupling bolts & nuts of each size. 1 HP & 1 L.P. 1st motion pin 2 half bearings for main gear wheel shaft. 8 half bearings for rotor shafts. 1 set bearings for each pinion shaft. 24 pads for Mitchell adjusting blocks, and adjusting liners for Bolts, studs and nuts for various parts. 1/2 set segments for rotor shaft glands 2 propeller blades. 4 feed check valves. 1 set valves for air, feed & bilge pumps and for all auxiliary pumps. Various spare parts for circulating and engines. Assorted bolts, nuts & spare gear as per Rules see HPL letter 12/1/21.*

The foregoing is a correct description.

*FOR THE CENTRAL MARINE ENGINE WORKS,
(Ld. Eng & Co. (1918) Ltd.)*

Manufacturer.

Manchester

MANAGING DIRECTOR, C.M.E.W.

Dates of Survey while building
During progress of work in shops -- *1919. Sep 23. Oct 20. 22. 23. 24. 27. 29. 30. 31. Nov 4. 10. 11. 12. 13. 18. 20. 21. Dec 5. 29. 1920. Jan 7. 12. 16. 20. 21. Feb 3. 18. 19. 20. 23. 24. 27. Mar 4. 5. 11. 12. 15. 16. 17. 19. 22. 23. 24. 25. 29. 30. 31. Apr 8. 9. 12. 13. 14. 15. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. May 6. 7. 10. 11. 12. 13. 14. 17. 19. 20. 26. 27. June 1. 2. 7. 8. 10. 15. 17. 18. 21. 24. 25. 28. 30. July 1. 2. 6. 9. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Aug 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Sep 2. 7. 9. 13. 14. 16. 23. 27. Oct 4. 6. 11. 15. 18. 19. 25. 26. 27. 28. 29. 30. 31. Nov 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Dec 1. 6. 9. 16. 17. 21. 23. 29. 31. 111 visits*
Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Casings *29. 30. 4. 20* Rotors *30. 1. 6. 20* Blading *27. 4. 10. 6. 20* Gearing *6. 9. 7. 20*

Rotor shaft *27. 5. 20* Thrust shaft *27. 5. 20* Tunnel shafts *15. 6. 20* Screw shaft *15. 6. 20* Propeller *25. 6. 20*

Stern tube *26. 5. 20* Steam pipes tested *27. 7. 6. 12. 20* Engine and boiler seatings *25. 6. 20* Engines holding down bolts *23. 11. 20*

Completion of pumping arrangements *21. 12. 20* Boilers fixed *14. 7. 20* Engines tried under steam *23. 12. 20*

Main boiler safety valves adjusted *16. 12. 20* Thickness of adjusting washers *PP 15/32 S 7/16 CP 7/16 S 7/16 SP 15/32 S 7/16*

Material and tensile strength of Rotor shaft *S.M. Ingot steel 34-38 tons.* Identification Mark on Do. *6191*

Material and tensile strength of Pinion shaft *Richel steel 40-45 tons.* Identification Mark on Do. *6191*

Material of Wheel shaft *Ing. Stl.* Identification Mark on Do. *6191* Material of Thrust shaft *Ing. Stl.* Identification Mark on Do. *619*

Material of Tunnel shafts *Ing. stl* Identification Marks on Do. *6191* Material of Screw shafts *Ing. Stl.* Identification Marks on Do. *619*

Material of Steam Pipes *Lap welded steel* Test pressure *675 lbs.*

Is an installation fitted for burning oil fuel *yes* Is the flash point of the oil to be used over 150°F. *yes*

Have the requirements of Section 49 of the Rules been complied with *yes*

Is this machinery a duplicate of a previous case *no* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c.) *This vessel's machinery has been built under Special Survey. The materials and workmanship are good. On completion it was satisfactorily tried under full steam, and in my opinion is eligible to have the notation **⚓ L.M.C. 12.20***

The installation for burning oil fuel has been fitted complete but has not been tried, no oil being put on board.

The amount of Entry Fee ... £ *3 : 0 : 0* When applied for, *11/1/21*
Special ... £ *51 : 12 : 0*
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : : : *12-1-21*

R. D. Shilston.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. JAN. 11 1921

Assigned *+ L.M.C. 12.20 F.D.*
Limited for oil fuel 12.20
F.P. above 150°F.



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