

REPORT ON MACHINERY.

No. 73140

Received at London Office

THU MAY 27 1920

Writing Report *24th May 1920* When handed in at Local Office *25th May 1920* Port of *Newcastle on Tyne*
 in Survey held at *Farron & Haddon* Date, First Survey *14th May 1919* Last Survey *17th May 1919*
 Book. *S. S. Erle* (Number of Visits *59*)

ter Built at *Newcastle* By whom built *Northumberland S B Co Ltd* Tons { Gross *5650*
 Net *3550*
 When built *1920*
 nes made at *Farron on Tyne* By whom made *Palmer Shipbuilding & Iron Co Ltd* when made *1920*
 (Engine No *908*)
 ers made at *do* By whom made *do* when made *1920*

stered Horse Power Owners *Greutz Haversins Rederi* Port belonging to *Christiania*
 Horse Power as per Section 28 *517* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *yes*

INES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *Three* No. of Cranks *3*
 of Cylinders *27" 44" 73"* Length of Stroke *48"* Revs. per minute *77* Dia. of Screw shaft *as per rule 14 3/4"* Material of *Steel*
 as fitted *15 1/2"* screw shaft
 e 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
 be propeller boss *yes* If the liner is in more than one length are the joints burned *✓* If the liner does not fit tightly at the part
 en the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *✓* If two
 s are fitted, is the shaft lapped or protected between the liners *✓* Length of stern bush *5' 0 1/2"*

of Tunnel shaft *as per rule 13 3/4"* Dia. of Crank shaft journals *as per rule 1 1/2"* Dia. of Crank pin *1 1/2"* Size of Crank webs *25" x 9"* Dia. of thrust shaft under
 as fitted *13 1/2"* Dia. of screw *17-9"* Pitch of Screw *16-9"* No. of Blades *4* State whether moveable *No* Total surface *93 ft*
 of Feed pumps *2* Diameter of ditto *4"* Stroke *24"* Can one be overhauled while the other is at work *yes*

of Bilge pumps *2* Diameter of ditto *4"* Stroke *24"* Can one be overhauled while the other is at work *yes*
 of Donkey Engines *Three* Sizes of Pumps *10 1/2" 14" 24"* No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room *Four 3 1/2" diameter* In Holds, &c. *Two 3 1/2" diameter in Nos 1, 2*
and 4 holds and one 2 1/2" in tunnel well.

of Bilge Injections *1* sizes *13"* Connected to condenser, or to circulating pump *yes* Is a separate Donkey Suction fitted in Engine room & size *yes 3 1/2"*
 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 *✓*
 all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *Both*

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*
 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*
 t pipes are carried through the bunkers *bilge pipes before holds* How are they protected *hood boxing*

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *yes*
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *yes*

the Screw Shaft Tunnel watertight *yes* Is it fitted with a watertight door *yes* worked from *Engine room top plate*

ERS, &c.—(Letter for record *S*) Manufacturers of Steel *Spencer & Son Ltd* *3 S B*

d Heating Surface of Boilers *7668 ft* Is Forced Draft fitted *yes* No. and Description of Boilers *3 Single Ended*
 Working Pressure *180 lb per sq in* Tested by hydraulic pressure to *360 lb per sq in* Date of test *31/10/19* No. of Certificate *9315*
7/11/19

each boiler be worked separately *yes* Area of fire grate in each boiler *63.3 ft* No. and Description of Safety Valves to
 boiler *Two direct spring* Area of each valve *9.62 ft* Pressure to which they are adjusted *180 lb per sq in* Are they fitted with easing gear *yes*

least distance between boilers or uptakes and bunkers or woodwork *30"* Mean dia. of boilers *15-6"* Length *11-6"* Material of shell plates *Steel*
 thickness *1 1/4"* Range of tensile strength *28/32 tons* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *2 R Lap*
 seams *Double straps* Diameter of rivet holes in long. seams *1 5/16"* Pitch of rivets *9/5"* Lap of plates or width of butt straps *19 1/2"*

percentages of strength of longitudinal joint *88.3* Working pressure of shell by rules *152 lb* Size of manhole in shell *16" x 12*
 plate *55.6*

of compensating ring *flanged spigot* No. and Description of Furnaces in each boiler *3 Brighton* Material *Steel* Outside diameter *50 3/8"*
 th of plain part *top* Thickness of plates *19/32* Description of longitudinal joint *Welded* No. of strengthening rings *✓*
bottom

Working pressure of furnace by the rules *188* Combustion chamber plates: Material *Steel* Thickness: Sides *2 3/32"* Back *1/16"* Top *2 3/32"* Bottom *2 3/32"*
 h of stays to ditto: Sides *1 1/32" x 8 1/8"* Back *10/16" x 8 1/2"* Top *10/16" x 9 1/4"* If stays are fitted with nuts or riveted heads *Nuts inside* Working pressure by rules *180*

Material of stays *Steel* Area at smallest part *2.75 ft* Area supported by each stay *95 ft* Working pressure by rules *219* End plates in steam space:
Double nuts Thickness *1 1/32"* Pitch of stays *20 1/2" x 21 1/2"* How are stays secured *Double nuts* Working pressure by rules *192* Material of stays *Steel*

smallest part *8.45 ft* Area supported by each stay *4.46 ft* Working pressure by rules *199* Material of Front plates at bottom *Steel*
 thickness *3/32"* Material of Lower back plate *Steel* Thickness *27/32"* Greatest pitch of stays *3 5/8" x 8 3/4"* Working pressure of plate by rules *187*

diameter of tubes *2 3/4"* Pitch of tubes *4" x 3 7/8"* Material of tube plates *Steel* Thickness: Front *31/32"* Back *3/4"* Mean pitch of stays *9 7/8"*
 h across wide water spaces *13 5/8"* Working pressures by rules *194 lb* Girders to Chamber tops: Material *Steel* Depth and

ness of girder at centre *10" x 1 3/4"* Length as per rule *35 7/16"* Distance apart *10 5/8"* Number and pitch of stays in each *Three, 9 1/4"*
 Working pressure by rules *157 lb* Steam dome: description of joint to shell *None* % of strength of joint *✓*

eter *✓* Thickness of shell plates *✓* Material *✓* Description of longitudinal joint *✓* Diam. of rivet holes *✓*
 h of rivets *✓* Working pressure of shell by rules *✓* Crown plates *✓* Thickness *✓* How stayed *✓*

ERHEATER. Type *None* Date of Approval of Plan *✓* Tested by Hydraulic Pressure to *✓*
 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 *✓*

W332-0063

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:—2 top and 2 bottom end bolts and nuts, bearing bolts and nuts, one set of coupling bolts and nuts, one for and one ridge pump suction and discharge valves, 3 main and 3 check valves, a quantity of assorted bolts and nuts, a few of iron, one propeller boss and six blades etc.

The foregoing is a correct description,

For *Palmer Shipbuilding & Iron Co., Ltd.*

Manufacturer.

General Manager, Engine Works.
Dates of Survey while building
During progress of work in shops -- *May 14, June 18, July 10, 25, Aug 6, 11, 15, 18, 29, Sept 1, 5, 12, 17, 19, 26, 29, 30, Oct 6, 7, 8, 15, 16, 20, 31, Nov 6, 7, 14, 20, Dec 11, 19, 1920, Jan 9, 15, 22, 25, 26, 29, 30, Feb 2, 5, 6, 9, 12, 13, 14, Mar 11, 12, 20, 29, Apr 4, 15, 19, 22, 27, May 7, 11, 13.*
During erection on board vessel --
Total No. of visits *59*

Is the approved plan of main boiler forwarded herewith *✓*

Dates of Examination of principal parts—Cylinders *18/6, 6/5, 5/11* Slides *17/11/19* Covers *6/11, 17/11/19* Pistons *6/11, 17/11/19* Rods *17/11/19*
Connecting rods *7/11, 4/11/19* Crank shaft *18/6/19* Thrust shaft *23/1/20* Tunnel shafts *23/1/20* Screw shaft *23/1/20* Propeller *23/1/20*
Stern tube *23/1/20* Steam pipes tested *6/2, 14/2, 23/2* Engine and boiler seatings *22/1, 20/2, 20/2* Engines holding down bolts *5/2*

Completion of pumping arrangements *22/4/20* Boilers fixed *5/2, 11/2/20* Engines tried under steam *22/4/20*

Completion of fitting sea connections *23/1, 11/5/20* Stern tube *23/1, 11/5/20* Screw shaft and propeller *23/1, 11/5/20*

Main boiler safety valves adjusted *22/4/20* Thickness of adjusting washers *PB 1 5/32 - 1/2 C.B. 7/16 - 15/32 SB 1 7/32*

Material of Crank shaft *Steel* Identification Mark on Do. *1/4/20 6M* Material of Thrust shaft *Steel* Identification Mark on Do. *1/4/20 6M*

Material of Tunnel shafts *Steel* Identification Marks on Do. *1/4/20 6M* Material of Screw shafts *Steel* Identification Marks on Do. *1/4/20 6M*

Material of Steam Pipes *Steel & Copper* Test pressure *540 + 360 lb per sq in*

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 duplicate of a previous case *Yes* If so, state name of vessel *"Comille Gilbert" No. 72*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been constructed under special survey, the materials and workmanship are of good quality, it has been securely fitted on board and satisfactorily tried under full steam. The boilers are now fitted for burning oil fuel.*

The machinery of this vessel is now, in my opinion eligible for record: L.M.C. 5.20 (in red) in the register book.

Drawings & forging reports, and minis for furnaces and steel plates have been forwarded.

It is submitted that this vessel is eligible for

THE RECORD—L.M.C. 5.20 F.D.

FITTED FOR OIL FUEL 5.20 F.P. ABOVE 150°F

WHD *WHE 28/5/20* *GRJ*

The amount of Entry Fee ... £ *3* : : When applied for, *2.6 MAY 1920*

Special ... £ *45* : : When received, *6/6*

Donkey Boiler Fee ... £ : : *28.6.20*

Travelling Expenses (if any) £ : : *29*

Committee's Minute *FRI JUN 4 1920*

Assigned *+ L.M.C. 5.20 F.D.*

Added for Oil Fuel 5.20 F.P. above 150°F