

REPORT ON MACHINERY.

No. 27655
THU. JUL. 21 1914.

of writing Report 11-6-14 10 When handed in at Local Office 16-6-14 10 Port of Hull
 in Survey held at Hull Date, First Survey Dec 17th Last Survey 10-6-14 1914
 g. Book. on the steel screw steamer Destro (Number of Visits 50)
 Built at Hull By whom built Carlis Co Ltd Tons { Gross 859
 Engines made at Hull By whom made Carlis Co Ltd { Net 394
 When built 1914-6
 Owners J. Wilson Sons & Co Ltd when made 1914-6
 Port belonging to Hull
 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion ✓ No. of Cylinders Three No. of Cranks Three
 Dia. of Cylinders 15"-24 1/2"-40" Length of Stroke 30" Revs. per minute 95 Dia. of Screw shaft as per rule 9 1/4" Material of screw shaft steel
 the screw shaft fitted with a continuous liner the whole length of the stern tube no liners Is the after end of the liner made water tight
 the propeller boss ✓ If the liner is in more than one length are the joints burned ✓ 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 ✓ If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 3'-6"
 Dia. of Tunnel shaft as per rule 7 1/2" Dia. of Crank shaft journals as per rule 8 1/4" Dia. of Crank pin 8 1/4" Size of Crank webs 16" x 5 1/4" Dia. of thrust shaft under
 collars 8 1/4" Dia. of screw 11'-6" Pitch of Screw 11 1/2" 3" No. of Blades 4 State whether moceable no Total surface 40 ft²
 No. of Feed pumps two Diameter of ditto 2 1/4" Stroke 18" Can one be overhauled while the other is at work yes
 No. of Bilge pumps two Diameter of ditto 2 3/4" Stroke 18" Can one be overhauled while the other is at work yes
 No. of Donkey Engines Two Sizes of Pumps 6 1/4" x 4 3/4" x 6 7/8" 7 1/4" x 8" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Four 2" dia. + one 2 1/2" in tunnel well In Holds, &c. one 2 1/2" x two 2" in No. 2, one 2 1/2" in
 Nos 1 & 3
 No. of Bilge Injections one sizes 3 1/2" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes 3"
 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 ✓
 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 above
 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 forward suction How are they protected wooden casings
 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 5-5-14 of Stern Tube 5-5-14 Screw shaft and Propeller 5-5-14
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Phoenix Abt. Höder Verein Höder
 Total Heating Surface of Boilers 2010 ft² Is Forced Draft fitted no No. and Description of Boilers two single ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 1-5-14 No. of Certificate 2081
 Can each boiler be worked separately yes Area of fire grate in each boiler 31.65 ft² No. and Description of Safety Valves to
 each boiler Two spring loaded Area of each valve 3.14 ft² Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork about 2 ft 2" Mean dia. of boilers 132" Length 10'-0" Material of shell plates steel
 Thickness 15/16" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double
 long. seams L.R.D.B. Diameter of rivet holes in long. seams 1" Pitch of rivets 7 1/4" Top of plates or width of butt straps 15"
 Per centages of strength of longitudinal joint rivets 86 plate 86.2 Working pressure of shell by rules 186 lbs Size of manhole in shell 12" x 16"
 Size of compensating ring 9" x 15 1/16" No. and Description of Furnaces in each boiler two plain Material S Outside diameter 39 1/8"
 Length of plain part top 7 1/2" bottom 7 1/2" Thickness of plates crown 7 13/16" Description of longitudinal joint welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 208 Combustion chamber plates: Material steel Thickness: Sides 2 1/32" Back 2 1/32" Top 2 1/32" Bottom 2 1/32"
 Pitch of stays to ditto: Sides 9 3/4" x 8 3/8" Back 9" x 8 7/8" Top 9 1/2" x 7 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180
 Material of stays steel Diameter at smallest part 1.76 ft² Area supported by each stay 77.5 ft² Working pressure by rules 181 End plates in steam space:
 Material steel Thickness 3 1/32" Pitch of stays 15 1/2" x 15" How are stays secured 8 ft. Working pressure by rules 180 lbs Material of stays steel
 Diameter at smallest part 4.22 ft² Area supported by each stay 231 ft² Working pressure by rules 189 Material of Front plates at bottom steel
 Thickness 29/32" Material of Lower back plate steel Thickness 27/32" Greatest pitch of stays 14" x 8 5/8" Working pressure of plate by rules 182
 Diameter of tubes 3 1/4" Pitch of tubes 4 9/16" x 4 1/2" Material of tube plates S Thickness: Front 29/32" Back 27/32" Mean pitch of stays 11 1/4"
 Pitch across wide water spaces 13 3/4" Working pressures by rules 189 lbs Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 7 1/2" x 1 1/2" Length as per rule 29 1/4" Distance apart 7 3/4" Number and pitch of stays in each two 9 1/2"
 Working pressure by rules 200 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
 holes ✓ 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 ✓

IS A DONKEY BOILER FITTED? *no* If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, 1/2 set of feed, bilge, air, circulating & donkey pump valves, 3 junk ring studs & nuts, one main & one donkey check valve, one safety valve spring, cylinder cover studs & nuts & quantity of bolts & nuts & nuts of various size.*

The foregoing is a correct description,

SHIPBUILDING & ENGINEERING CO. LIMITED.

Shalson

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1913: Dec 17, 24 1914: Jan 9, 12, 13, 14, 21, 23, 27. Feb. 5, 10, 12, 13, 16, 18, 23, 26. Mar 3, 4, 6, 9, 16, 23, 27, 28, 31. Apr 3, 6, 8, 9, 20, 22, 24, 28, 30. May 1, 4, 5, 18, 20, 22, 23. During erection on board vessel --- May 27, 29 Jun 3, 4, 6, 8, 10. Total No. of visits 50

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

Dates of Examination of principal parts—Cylinders *9-3-14* Slides *13-2-14* Covers *9-3-14* Pistons *6-3-14* Rods *6-3-14* Connecting rods *6-3-14* Crank shaft *26-2-14* Thrust shaft *26-2-14* Tunnel shafts *9-3-14* Screw shaft *9-4-14* Propeller *9-4-14* Stern tube *4-5-14* Steam pipes tested *22-5-14* Engine and boiler seatings *28-3-14* Engines holding down bolts *22-5-14* Completion of pumping arrangements *6-6-14* Boilers fixed *22-5-14* Engines tried under steam *6-6-14* Main boiler safety valves adjusted *27-5-14* Thickness of adjusting washers *Port 10 3/16, S 3/8; St 10 3/8, S 3/8.* Material of Crank shaft *steel* Identification Mark on Do. *1042 F.L.S* Material of Thrust shaft *steel* Identification Mark on Do. *1043 F.L.S* Material of Tunnel shafts *steel* Identification Marks on Do. *1043 F.L.S* Material of Screw shafts *steel* Identification Marks on Do. *1044 F.L.S* Material of Steam Pipes *solid drawn copper* Test pressure *400 lbs.*

Is an installation fitted for burning oil fuel *no* 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

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

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this Society, the materials & workmanship are good. The boilers have been tested by hydraulic pressure as above & found sound & tight. The machinery has been properly fitted & secured on board & on completion was tested under steam & found satisfactory. The safety valves have been adjusted & tested for accumulation.*

In my opinion this vessel is eligible for the record + L.M.C. 6.14 Blue light.

It is submitted that this vessel is eligible for THE RECORD, + L.M.C. 6.14.

J.W.D. 7/7/14 J.P.R.

The amount of Entry Fee ... £ 2 : 0 : When applied for, 1/7/14
Special ... £ 17 : 2 :
Donkey Boiler Fee ... £ : :
Traveling Expenses (if any) £ : : When received, 4/7/14

Frank A. Sturgeon
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
FRI. JUL. 3-1914

Committee's Minute *[blacked out]* 1914
Assigned *+ L.M.C. 6.14*



Null

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

REMARKS WRITTEN