

REPORT ON MACHINERY.

No. 28211

Received at London Office

WED. JAN. 20. 1915

Date of writing Report 5-1-15 When handed in at Local Office 5-1-15 Port of Hull

No. in Survey held at Hull Date, First Survey 11-8-14 Last Survey 5-1-15 19

Reg. Book. 39 on the steel screw steamer Cadet (Number of Tons) Gross 323 Net 134

Master Built at Beverley By whom built Cook, Welton & Gemmell When built 1915-1

Engines made at Hull By whom made C. D. Holmes & Co. Ltd (701072) when made 1915-1

Boilers made at Hull By whom made C. D. Holmes & Co. Ltd when made 1915-1

Registered Horse Power Owners Thos. Faking & Co. Ltd, G. Walton & Co. Port belonging to Hull

Nom. Horse Power as per Section 28 87 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 3

Dia. of Cylinders 13"-23"-37" Length of Stroke 26" Revs. per minute Dia. of Screw shaft as per rule 7.91 as fitted 8" Material of screw shaft Iron

Is the 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 in the propeller boss 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 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 2-11 1/2"

Dia. of Tunnel shaft as per rule 7.04 as fitted 7.04" Dia. of Crank shaft journals as per rule 7.39 as fitted 7 1/2" Dia. of Crank pin 7 1/2" Size of Crank webs 1 1/2" x 4 1/2" Dia. of thrust shaft under collars 7 1/2" Dia. of screw 9-7 1/2" Pitch of Screw 11-0" No. of Blades 4 State whether moveable no Total surface 33 1/2"

No. of Feed pumps one Diameter of ditto 2 3/4" Stroke 14 3/4" Can one be overhauled while the other is at work

No. of Bilge pumps one Diameter of ditto 2 3/4" Stroke 14 3/4" Can one be overhauled while the other is at work

No. of Donkey Engines one 2 1/2" yds. Sizes of Pumps 6" x 3 1/2" x 6 7/8" wheel No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room two 2" dia. In Holds, &c. one 2" in each compartment

all suction coupled to ejector

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 2 1/2" yds

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 none

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 stowhold 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 Wood casing

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 5-9-14 of Stern Tube 5-9-14 Screw shaft and Propeller 5-9-14

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Phoenix & Holder, Kelvin Works

Total Heating Surface of Boilers 1440 Is Forced Draft fitted no No. and Description of Boilers one single ended

Working Pressure 200 Tested by hydraulic pressure to 400 Date of test 19-11-14 No. of Certificate 3043

Can each boiler be worked separately Area of fire grate in each boiler 49.57 No. and Description of Safety Valves to each boiler two spring loaded Area of each valve 4.9 Pressure to which they are adjusted 205 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 165" Length 10'-6" Material of shell plates S

Thickness 1 3/4" Range of tensile strength 29-33 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double

long. seams J.P.H.B. Diameter of rivet holes in long. seams 1 7/32" Pitch of rivets 8 1/8" Lap of plates or width of butt straps 18"

Per centages of strength of longitudinal joint rivets 88.9 plate 85 Working pressure of shell by rules 202 Size of manhole in shell 12" x 16"

Size of compensating ring 7" x 1 3/16" No. and Description of Furnaces in each boiler three plain Material S Outside diameter 40"

Length of plain part top 7 1/2" bottom 6 1/2" Thickness of plates crown 1 3/16" Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 206 Combustion chamber plates: Material S Thickness: Sides 3/4" Back 2 3/32" Top 3/4" Bottom 3/4"

Pitch of stays to ditto: Sides 8" x 10" Back 8 3/4" x 9 3/8" Top 11" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 211

Material of stays S Diameter at smallest part 2.4" Area supported by each stay 105" Working pressure by rules 206 End plates in steam space

Material S Thickness 1 7/32" Pitch of stays 19 1/2" x 18" How are stays secured 8 1/2" x 1 1/2" Working pressure by rules 200 Material of stays S

Diameter at smallest part 7.5" Area supported by each stay 350" Working pressure by rules 222 Material of Front plates at bottom S

Thickness 1" Material of Lower back plate S Thickness 1 5/16" Greatest pitch of stays 13 3/4" x 9 3/4" Working pressure of plate by rules 214

Diameter of tubes 3 1/2" Pitch of tubes 4 7/8" Material of tube plates S Thickness: Front 1" Back 7/8" Mean pitch of stays 9 1/4"

Pitch across wide water spaces 13 3/4" Working pressures by rules 203 Girders to Chamber tops: Material S Depth and thickness of girder at centre 11" x 1 3/4" Length as per rule 36 7/32" Distance apart 11" Number and pitch of stays in each two 8"

Working pressure by rules 201 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, one set of air feed valve pump valves, one set of piston studs, one feed or bilge pump plunger, one impeller & shaft, one safety valve spring & a quantity of bolts & nuts & nuts of various sizes*

The foregoing is a correct description,
 p. pro CHARLES D. HOLMES & CO. LTD.
S. Arthur Holmes DIRECTOR Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1914: - Aug 11, 13, 20, 21, 26, 28, 31. Sept 3, 5, 8, 14, 18, 22, 23, 28 Oct 1, 3, 6, 8, 14, 16, 19, 20, 22, 23, 26 }
 { During erection on board vessel - - - 28, 30 Nov 3, 5, 9, 11, 14, 17, 18, 19, 24, 25 Dec 2, 8, 11, 14, 16, 17, 21 Jan 4, 5. }
 Total No. of visits *48* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts - Cylinders *3-11-14* Slides *16-11-14* Covers *16-11-14* Pistons *9-11-14* Rods *9-11-14*
 Connecting rods *9-11-14* Crank shaft *19-10-14* Thrust shaft *14-11-14* Tunnel shafts Screw shaft *21-8-14* Propeller *21-8-14*
 Stern tube *28-8-14* Steam pipes tested *11-12-14* Engine and boiler seatings *5-9-14* Engines holding down bolts *8-12-14*
 Completion of pumping arrangements *5-1-14* Boilers fixed *21-12-14* Engines tried under steam *17-12-14*
 Main boiler safety valves adjusted *17-12-14* Thickness of adjusting washers *7/16 & 3/8*
 Material of Crank shaft *Iron* Identification Mark on Do. *1298 FLS* Material of Thrust shaft *Steel* Identification Mark on Do. *1387 FLS*
 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *Iron* Identification Marks on Do. *1262 FLS*
 Material of Steam Pipes *Solid drawn copper* Test pressure *400*
 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

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 plan & the rules of this Society, the materials & workmanship are good, the boiler & steam pipes have been tested as above & found sound & good. The machinery has been properly fitted & secured on board & on completion was tried under steam & found to work satisfactorily. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 209 lbs. In my opinion the vessel is eligible for the record + L.M.C. 1-15.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 1-15.

JWD
20/1/15

The amount of Entry Fee ... £ 1 : 0 :
 Special ... £ 13 : 1 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ 2/-
 When applied for, *14-1-1915*
 When received, *29/1/15*

Committee's Minute *FRI. JAN. 22. 1915*
 Assigned *+ L.M.C. 1-15*
 Frank S. Sturgeon
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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