

# REPORT ON MACHINERY.

No. 29488

Received at London Office 19 AUG. 1916

Date of writing Report 14-8-16 When handed in at Local Office 17-8-16 Port of Hull  
 No. in Survey held at Hull Date, First Survey 5-7-15 Last Survey 11-8-16 19  
 Reg. Book. 924 on the steel screw trawler "Royals" (Number of Visits 58) Tons { Gross 248  
 Master Beverley Built at Beverley By whom built Cook, Wilton & Gemmell When built 1916-2  
 Engines made at Hull By whom made C. D. Holmes & Co. Ltd when made 1916-2  
 Boilers made at Hull By whom made C. D. Holmes & Co. Ltd when made 1916-2  
 Registered Horse Power 80 Owners G. F. Height Port belonging to Grimshy  
 Nom. Horse Power as per Section 28 80 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 12 1/2 - 22 - 35 Length of Stroke 24 Revs. per minute 119 Dia. of Screw shaft 7 3/4 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 yes If two  
 liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 35 1/2  
 Dia. of Tunnel shaft 6.6 Dia. of Crank shaft journals 6.93 Dia. of Crank pin 7 Size of Crank webs 4 3/4 x 3 1/4 Dia. of thrust shaft under  
 collars 7 Dia. of screw 8-9 Pitch of Screw 10-9 No. of Blades 4 State whether moveable no Total surface 29 1/4  
 No. of Feed pumps one Diameter of ditto 2 3/4 Stroke 14 1/2 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps one Diameter of ditto 2 3/4 Stroke 14 1/2 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines two Sizes of Pumps 5 1/2 x 3 1/2 x 5 x 6, 4 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room two, 2" dia. In Holds, &c. one 2" dia. in each compartment  
 All suction also connected to ejector  
 No. of Bilge Injections one sizes 3 1/2 Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size 2 1/2  
 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 no  
 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 strong 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 20-11-15 of Stern Tube 20-11-15 Screw shaft and Propeller 20-11-15  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Stewarts & Lloyds  
 Total Heating Surface of Boilers 1402 Is Forced Draft fitted no No. and Description of Boilers one single ended  
 Working Pressure 195 lbs Tested by hydraulic pressure to 390 lbs Date of test 21-7-16 No. of Certificate 3150  
 Can each boiler be worked separately yes Area of fire grate in each boiler 43.2 No. and Description of Safety Valves to  
 each boiler two spring loaded Area of each valve 4.9 Pressure to which they are adjusted 200 lbs Are they fitted with easing gear yes  
 Smallest distance between boilers on uptakes and bunkers on woodwork 7" lagged dia. of boilers 162" Length 10-6 Material of shell plates steel  
 Thickness 1 3/16 Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double  
 long. seams J.R.D.B. Diameter of rivet holes in long. seams 1 1/32 Pitch of rivets 8 1/16 Top of plates or width of butt straps 16 3/8  
 Per centages of strength of longitudinal joint 86.8 Working pressure of shell by rules 197 lbs Size of manhole in shell 16" x 12"  
 Size of compensating ring 7" x 1 3/16 No. and Description of Furnaces in each boiler 3 Plain Material steel Outside diameter 40"  
 Length of plain part 7.6 3/4 Thickness of plates 1 3/32 Description of longitudinal joint welded No. of strengthening rings 1  
 Working pressure of furnace by the rules 197 Combustion chamber plates: Material steel Thickness: Sides 1 1/16 Back 3/16 Top 1/16 Bottom 1 1/16  
 Pitch of stays to ditto: Sides 9 1/2 x 8 Back 6 1/2 x 9 1/2 Top 11 x 8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 200  
 Material of stays steel Diameter at smallest part 2.07 Area supported by each stay 89 Working pressure by rules 209 End plates in steam space:  
 Material steel Thickness 1 5/32 Pitch of stays 18 x 18 How are stays secured 9 1/2 x 4 Working pressure by rules 195 Material of stays steel  
 Diameter at smallest part 6.33 Area supported by each stay 324 Working pressure by rules 203 Material of Front plates at bottom steel  
 Thickness 3/8 Material of Lower back plate steel Thickness 3/32 Greatest pitch of stays 15 1/4 x 9 1/2 Working pressure of plate by rules 204  
 Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 Material of tube plates steel Thickness: Front 3/16 Back 7/8 Mean pitch of stays 9 1/2  
 Pitch across wide water spaces 15 Working pressures by rules 250 lbs Girders to Chamber tops: Material steel Depth and  
 thickness of girder at centre 10 3/4 x 1 1/4 Length as per rule 35.8 Distance apart 11 Number and pitch of stays in each three 8"  
 Working pressure by rules 197 Superheater or Steam chest; how connected to boiler yes Can the superheater be shut off and the boiler worked  
 separately yes Diameter yes Length yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet  
 holes yes Pitch of rivets yes Working pressure of shell by rules yes Diameter of flue yes Material of flue plates yes Thickness yes  
 if stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes  
 Working pressure of end plates yes Area of safety valves to superheater yes Are they fitted with easing gear yes

7900-7473

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 bridge pump valves, one main & one donkey check valve, six junk wing studs & nuts, one safety valve spring, 3 boiler tubes & a quantity of bolts & nuts & wire 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 - - } 1915: - Jul 5, 12, 16, 20 Aug 13, 18, Sep 15, 22 Oct 5, Nov 16, 18, 20 Dec 6, 8, 17, 22 1916: Jan 5, 18  
{ During erection on board vessel - - - } Feb 8, 11, 22, 29 Mar 14, 21, 28, 30 Apr 13, 17, 19 May 2, 5, 9, 15, 18, 22, 23, 25, 30 Jan 1, 6, 9, 12, 15, 16  
Total No. of visits *58* Is the approved plan of main boiler forwarded herewith *No Plan forwarded with 1st Report 24434*

Dates of Examination of principal parts - Cylinders *1-6-16* Slides *12-6-16* Covers *12-6-16* Pistons *6-6-16* Rods *6-6-16*  
Connecting rods *6-6-16* Crank shaft *6-6-16* Thrust shaft *16-6-16* Tunnel shafts - Screw shaft *18-11-16* Propeller *18-11-16*  
Stern tube *18-11-16* Steam pipes tested *2-8-16* Engine and boiler seatings *20-11-16* Engines holding down bolts *11-7-16*  
Completion of pumping arrangements *11-8-16* Boilers fixed *5-8-16* Engines tried under steam *11-8-16*  
Main boiler safety valves adjusted *5-8-16* Thickness of adjusting washers *P 9/32 S 9/32*  
Material of Crank shaft *Iron* Identification Mark on Do. *1592 FLS* Material of Thrust shaft *Iron* Identification Mark on Do. *114 DDW*  
Material of Tunnel shafts  Identification Marks on Do.  Material of Screw shafts *Iron* Identification Marks on Do. *1527 FLS*  
Material of Steam Pipes *Solid drawn copper* Test pressure *417 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 *yes* If so, state name of vessel *Recons, Pistako, Repanko etc.*

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 Boiler & steam pipes have been tested by hydraulic pressure as above & found sound & good. The machinery has been properly fitted & recovered on board & on completion was tried under full working condition & found satisfactory. 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 vessel + L.H. 8-16*

It is submitted that this vessel is eligible for THE BOARD + L.M.C. 8.16.

*JWD* *ARK*  
*21/8/16*

The amount of Entry Fee ... £ 1 : 0 :  
Special ... £ 12 : 0 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : 2 :  
When applied for, *18-8-1916*  
When received, *21-8-1916*

*Frank L. Sturgeon*  
Engineer-Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. 22. AUG. 1916  
Assigned *+ L.M.C. 8.16*



The Surveyors are requested not to write on or below the space for Committee's Minute.