

REPORT ON MACHINERY.

No. 25993.

Received at London Office THU. MAR. 27. 1913

Date of writing Report 19 When handed in at Local Office 20.3.13 Port of Hull.
 No. in Survey held at Hull. Date, First Survey Sep. 23. Last Survey Mar 12. 1913.
 Reg. Book. (Number of Visits 33)
 Name of the Ship S.S. K. "HAYWARD" now "VENATOR" Tons Gross 293 Net 135
 Master Built at Selby By whom built Goughans & Sons Ltd. When built 1913.
 Engines made at By whom made
 Boilers made at Hull By whom made Messrs. Charles R. Thomas & Co. Ltd. when made 1913.
 Registered Horse Power Owners Messrs. G. & J. G. G. Ltd. Port belonging to Gristley.
 Nom. Horse Power as per Section 28 49 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3. No. of Cranks 3.
 Dia. of Cylinders 12 3/4" - 22" - 36" Length of Stroke 24" Revs. per minute 113. Dia. of Screw shaft as per rule 4 1/4" 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 Length of stern bush 36".
 Dia. of Tunnel shaft as per rule 5 1/4" Dia. of Crank shaft journals as per rule 4 1/4" Dia. of Crank pin 4 1/4" Size of Crank webs 4 1/2" Dia. of thrust shaft under collars 4 1/4" Dia. of screw 9'-0" Pitch of Screw 11'-0" No. of Blades 4. State whether moveable No. Total surface 29 sq ft.
 No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 24" Can one be overhauled while the other is at work Yes.
 No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 24" Can one be overhauled while the other is at work Yes.
 No. of Donkey Engines 1 Sizes of Pumps 5" x 2 3/4" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 2" one forward & one aft. In Holds, &c. One 2" aft. duct with one 2" fore duct with one 2" fore duct, one 2" fore duct. Gudgeon suction from all bilges with discharge on deck.
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump pumps Is a separate Donkey Suction fitted in Engine room & size 2 1/2" gudgeon
 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 0
 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 Hold 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 9.1.13 of Stern Tube 9.1.13 Screw shaft and Propeller 9.1.13.
 Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Messrs. Schlick, Knaul & Co. of Hamburg.
 Total Heating Surface of Boilers 1295 sq ft Is Forced Draft fitted No. No. and Description of Boilers One cyl. mult. angle mtd. No. of Certificate 1963.
 Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 20.2.13
 Can each boiler be worked separately Area of fire grate in each boiler 48 sq ft No. and Description of Safety Valves to each boiler Two Spring. Area of each valve 4.90 Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes.
 Smallest distance between boilers or uptakes and bunkers on woodwork 6" Mean dia. of boilers 13'-6" Length 10'-6" Material of shell plates S.
 Thickness 1 3/16" Range of tensile strength 29 tons. Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams D.P.S. long. seams Y.P.D.P.S. Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8" Lap of plates on width of butt straps 16 5/8"
 Per centages of strength of longitudinal joint rivets 85 plate 85 Working pressure of shell by rules 206 lbs. Size of manhole in shell 16" x 12".
 Size of compensating ring 4" x 13" No. and Description of Furnaces in each boiler 3 plain. Material S. Outside diameter 38".
 Length of plain part top 6.4 bottom 10 Thickness of plates crown 25 bottom 22 Description of longitudinal joint Weld. No. of strengthening rings
 Working pressure of furnace by the rules 204 lbs. Combustion chamber plates: Material S. Thickness: Sides 23 Back 23 Top 23 Bottom 23
 Pitch of stays to ditto: Sides 9 1/2" x 8 1/2" Back 10 1/2" x 8 1/2" Top 10 1/2" x 8 1/2" If stays are fitted with nuts or riveted heads Yes. Working pressure by rules 216 lbs. End plates in steam space.
 Material of stays S. Diameter at smallest part 2.40 Area supported by each stay 100 sq in Working pressure by rules 205 lbs. Material of stays S.
 Material S. Thickness 1 1/2" Pitch of stays 18" x 19" How are stays secured D.P.S.W. Working pressure by rules 205 lbs. Material of Front plates at bottom S.
 Diameter at smallest part 7.50 Area supported by each stay 346.5 sq in Working pressure by rules 225 lbs. Material of Front plates at bottom S.
 Thickness 1 3/16" Material of Lower back plate S. Thickness 29 Greatest pitch of stays 14 1/2" x 8" Working pressure of plate by rules 206 lbs.
 Diameter of tubes 3 1/2" Pitch of tubes 5" x 5" Material of tube plates S. Thickness: Front 15 Back 8 Mean pitch of stays 10"
 Pitch across wide water spaces 14" x 14" Working pressures by rules 315 lbs. Girders to Chamber tops: Material S. Depth and thickness of girder at centre 10 3/4" - 1 1/2" Length as per rule 2'-11 1/2" Distance apart 10 1/2" Number and pitch of stays in each 7-8 1/2".
 Working pressure by rules 211 lbs. 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

If a Report also sent on the Hull of the Ship
 Capacity. Tons.
 26
 Imp. L. 1. 1.

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Two each top & bottom and connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each side & bilge pump valves, iron of various sizes, a quantity of assorted bolts nuts etc.*

The foregoing is a correct description,
P. pro **CHARLES D. HOLMES & Co. Ltd.**
 Manufacturer.

Arthur Holmes DIRECTOR

Dates of Survey while building: During progress of work in shops: 1912. - Sep. 23, Nov 4, 13, 15, 26, 28, Dec 6, 10, 17, 18, 24, 30, 1913. - Jan 1, 8, 9, 10, 14, 17, 22, 30
 During erection on board vessel: Jan 31, Feb 4, 5, 12, 17, 19, 20, 28, Mar 3, 4, 5, 7, 12.
 Total No. of visits: 33.

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

Dates of Examination of principal parts—Cylinders 1.1.13 Slides 12.2.13 Covers 14.2.13 Pistons 8.1.13 Rods 12.2.13
 Connecting rods 12.2.13 Crank shaft 10.1.13 Thrust shaft 14.2.13 Tunnel shafts _____ Screw shaft 18.12.12 Propeller 18.12.12
 Stern tube 18.12.12 Steam pipes tested 5.3.13 Engine and boiler seatings 9.1.13 Engines holding down bolts 4.3.13
 Completion of pumping arrangements 12.3.13 Boilers fixed 7.3.13 Engines tried under steam 4.3.13
 Main boiler safety valves adjusted 4.3.13 Thickness of adjusting washers *Forward 3/8" - aft 3/8"*
 Material of Crank shaft *Iron* Identification Mark on Do. *Nº 9887.6.D* Material of Thrust shaft *S.* Identification Mark on Do. *Nº 9887.6.D*
 Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts *Iron* Identification Marks on Do. *Nº 9887.6.D*
 Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs per sq. inch hydraulic.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure & with the engines run on board & tested under steam they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notation of 'L.M.C. 3.13' in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 3.13.

J.M. [Signature] 31/3/13

[Signature]
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £	1 : 0 :	When applied for.
Special £	11 : 17 :	26.3 - 1913
Donkey Boiler Fee .. . \$:	When received.
Travelling Expenses (if any) £	6/1 :	31/3/13

Committee's Minute TUE. APR. 1--1913
 Assigned + *L.M.C. 3.13*



Certificate (if required) to be sent to _____