

REPORT ON MACHINERY.

No. 23042

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No. in Survey held at
Reg. Book.Port of SunderlandDate, first Survey 15th December 06 Last Survey 12th Nov^r 1906

on the

S.S. "Ennistbrook"(Number of Visits 17)Master a. WallaceBuilt at SunderlandBy whom built Messrs J. Blumer & CoTons { Gross 2823.22
Net 1779.34
When built 1906Engines made at SunderlandBy whom made Messrs J. Dickinson & Sonswhen made 1906Boilers made at SunderlandBy whom made Messrs J. Dickinson & Sonswhen made 1906

Registered Horse Power

Owners Brook Steamship Co. Ltd.Port belonging to GlasgowNom. Horse Power as per Section 28 269Is Refrigerating Machinery fitted for cargo purposes noIs Electric Light fitted no

ENGINES, &c.—Description of Engines

Inverted triple expansionNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 23" 38" 62"Length of Stroke 42"Revs. per minute 70

Dia. of Screw shaft

as per rule 12.99"Material of IronIs 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 YesIf 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 YesLength of stern bush 4' 9"Dia. of Tunnel shaft as per rule 11.01"as fitted 11.2"Dia. of Crank shaft journals as per rule 11.56"as fitted 11.56"Dia. of Crank pin 11.56"Size of Crank webs Patent

Dia. of thrust shaft under

collars 11.56"Dia. of screw 17.0"Pitch of Screw 16.0"No. of Blades 4State whether moveable noTotal surface 72 sqNo. of Feed pumps 2Diameter of ditto 3 1/4"Stroke 21"Can one be overhauled while the other is at work YesNo. of Bilge pumps 2Diameter of ditto 4 1/4"Stroke 21"Can one be overhauled while the other is at work YesNo. of Donkey Engines 2Sizes of Pumps 6 x 4 x 6 1/47 1/2 x 9 x 10

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

2 of 3" & 1 of 3 1/2"

In Holds, &c.

2 of 3" in each & 1 of 3"No. of Bilge Injections 1sizes 4"Connected to condenser, or to circulating pump YesIs a separate Donkey Suction fitted in Engine room & size Yes - 4"Are all the bilge suction pipes fitted with roses YesAre the roses in Engine room always accessible YesAre the sluices on Engine room bulkheads always accessible YesAre all connections with the sea direct on the skin of the ship YesAre they Valves or Cocks bothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates YesAre the Discharge Pipes above or below the deep water line aboveAre they each fitted with a Discharge Valve always accessible on the plating of the vessel YesAre the Blow Off Cocks fitted with a spigot and brass covering plate YesWhat pipes are carried through the bunkers nilHow are they protected YesAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges YesDates of examination of completion of fitting of Sea Connections 25.10.06 of Stern Tube 25.10.06 Screw shaft and Propeller 30.10.06Is the Screw Shaft Tunnel watertight YesIs it fitted with a watertight door Yesworked from top platformBOILERS, &c.—(Letter for record S)Manufacturers of Steel J. Spencer & SonsTotal Heating Surface of Boilers 4132 sqIs Forced Draft fitted noNo. and Description of Boilers 2, Single ended, cylindrical Mult-Working Pressure 160 lbsTested by hydraulic pressure to 320 lbsDate of test 27.10.06No. of Certificate 2541Can each boiler be worked separately YesArea of fire grate in each boiler 53 1/4 sq

No. and Description of Safety Valves to

each boiler 2 springArea of each valve 8.29 sqPressure to which they are adjusted 165 lbsAre they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 24"Mean dia. of boilers 14.9 1/2"Length 10' 6"Material of shell plates steelThickness 1 3/32"Range of tensile strength 28/32Are the shell plates welded or flanged noDescrip. of riveting: cir. seams d. r. laplong. seams l. r. d. b. s.Diameter of rivet holes in long. seams 1 1/16"Pitch of rivets 8 3/16"Lap of plates or width of butt straps 17 7/8"

Per centages of strength of longitudinal joint

rivets 91plate 85.5Working pressure of shell by rules 162.3 lbsSize of manhole in shell 16 x 12"Size of compensating ring 8 3/8" x 1 3/32"No. and Description of Furnaces in each boiler 3 Brown & Imp...Material steelOutside diameter 42 3/4"Length of plain part topThickness of plates crownDescription of longitudinal joint weldNo. of strengthening rings YesWorking pressure of furnace by the rules 162.8 lbsCombustion chamber plates: Material steelThickness: Sides 1 1/16"Back 1 1/16"Top 1 1/16"Bottom 3/4"Pitch of stays to ditto: Sides 10 x 10 1/2"Back 11 3/4 x 8 1/2"Top 9 x 10"If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 160.1 lbsMaterial of stays steelDiameter at smallest part 1.6 x 1.7Area supported by each stay 95.46 sqWorking pressure by rules 160.163 lbs

End plates in steam space:

Material steelThickness 1 1/16"Pitch of stays 18 1/2 x 17 1/2"How are stays secured d x wWorking pressure by rules 167 lbsMaterial of stays IronDiameter at smallest part 2.921Area supported by each stay 298.3Working pressure by rules 168 lbsMaterial of Front plates at bottom steelThickness 3/4"Material of Lower back plate steelThickness 2 1/2"Greatest pitch of stays 13 1/4 x 11 1/4"Working pressure of plate by rules 163 lbsDiameter of tubes 3 1/4"Pitch of tubes 4 1/2 x 4 1/2"Material of tube plates steelThickness: Front 1 1/16" 3/4"Back 3/4"Mean pitch of stays 9"Pitch across wide water spaces 14 1/4"Working pressures by rules 208 lbsGirders to Chamber tops: Material steel

Depth and

thickness of girder at centre 6 7/8 x 2"Length as per rule 27 2/3"Distance apart 10"Number and pitch of stays in each 2-9"Working pressure by rules 167 lbsSuperheater or Steam chest; how connected to boiler Yes

Can the superheater be shut off and the boiler worked

separately Yes

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

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

Foundation

W898-0018

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		Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— Propeller, 1 Propeller shaft, 2 top end, 2 bottom end
2 Main bearing & set of coupling bolts, 1 set feed and bilge pump Valves, 1 set HP
piston pump, 2 Feed check Valves, bolts & nuts assorted & iron of sizes

The foregoing is a correct description,

John Jackson & Sons, Limited,

Manufacturer.

Dates of Survey while building	During progress of work in shops—	During erection on board vessel—	Total No. of visits	Is the approved plan of main boiler forwarded herewith
	- - -	- - -		
	- - -	- - -		

Dates of Examination of principal parts—Cylinders 10.9.06 Slides 17.10.06 Covers 19.9.06 Pistons 19.9.06 Rods 2.10.06				
Connecting rods 14.9.06 Crank shaft 16.9.06 Thrust shaft 19.9.06 Tunnel shafts 2.10.06 Screw shaft 2.10.06 Propeller 19.9.06				
Stern tube 4.10.06 Steam pipes tested 2.11.06 Engine and boiler seatings 25.10.06 Engines holding down bolts 1.11.06				
Completion of pumping arrangements 5.11.06 Boilers fixed 1.11.06 Engines tried under steam 5.11.06				
Main boiler safety valves adjusted 5.11.06 Thickness of adjusting washers P.A. $\frac{5}{16}$ " P.F. $\frac{1}{4}$ " S.A. $\frac{5}{16}$ " S.F. $\frac{5}{16}$ "				
Material of Crank shaft	Steel	Identification Mark on Do.	349B	Material of Thrust shaft
Material of Tunnel shafts	Steel	Identification Marks on Do.	3575, 3576, M.K. 3598, 3599, 3600 K.H.	Material of Screw shafts
Material of Steam Pipes	Copper	Test pressure	400 lbs	

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery of this vessel has been constructed under special survey, the workmanship and materials used are both of good quality. The Engines have been tried under steam and worked satisfactorily.

I beg to recommend that this vessel is eligible in my opinion to have the record \boxtimes L.M.C. 11.06 in the Register Book

It is submitted that this vessel is eligible for THE RECORD \boxtimes L.M.C. 11.06.

The amount of Entry Fee..	£ 2 :	When applied for,
Special	£ 33 :	19.11.06
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any) £	:	22.11.06

Committee's Minute

Assigned

FRI, NOV 23 1906

+ L.M.C. 11.06

MACHINERY CERTIFICATE WRITTEN.

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



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