

# REPORT ON MACHINERY

No. 32903

Received at London Office 19 SEP. 1921

Date of writing Report 19 When handed in at Local Office 3/8/21 Port of Hull

No. in Survey held at Hull Date, First Survey 3-8-20 Last Survey 3/8/1921  
 Reg. Book. on the S.S. No 439. Fairfield. (Number of Visits 50.)

Master Built at Beverley By whom built Wm. Wether & Gennell When built 1921  
 Engines made at Hull By whom made Jas. J. Holmes & Co. Ltd. when made 1921  
 Boilers made at Hull By whom made No 1245 when made 1921

Registered Horse Power Owners Port belonging to

Nom. Horse Power as per Section 28 85 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 13"-23"-37" Length of Stroke 24" Revs. per minute 112 Dia. of Screw shaft as per rule 7 1/2" Material of screw shaft Steel  
 as fitted 7 1/8"

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 No If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 32"

Dia. of Tunnel shaft as per rule 6 5/8" Dia. of Crank shaft journals as per rule 5 9/16" Dia. of Crank pin 7 1/4" Size of Crank webs 14x4 1/2" Dia. of thrust shaft under collars 7 1/4" Dia. of screw 9-9" Pitch of Screw 10-15" No. of Blades 4 State whether moveable No Total surface 33 sq ft

No. of Feed pumps one Diameter of ditto 3" Stroke 14 1/2" Can one be overhauled while the other is at work No  
 No. of Bilge pumps one Diameter of ditto 3" Stroke 14 1/2" Can one be overhauled while the other is at work No

No. of Donkey Engines one Sizes of Pumps 6" x 4 1/4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room THREE 2 1/2" In Holds, &c. 2 @ 2 1/2"

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" قطر

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 Yes

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 Yes

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 Hull material How are they protected Fire 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

Is the Screw Shaft Tunnel watertight No Is it fitted with a watertight door worked from

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel J. Spencer & Sons Ltd.

Total Heating Surface of Boilers 1470 sq ft Is Forced Draft fitted No No. and Description of Boilers one cyl. mult SE

Working Pressure 180 lbs Test by hydraulic pressure to 380 lbs Date of test 1/3/21 No. of Certificate 3475

Can each boiler be worked separately Yes Area of fire grate in each boiler 46.24 No. and Description of Safety Valves to each boiler one double spring Area of each valve 4.908 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 3-0" Mean dia. of boilers 13-3" Length 10-3" Material of shell plates Steel

Thickness 1 1/8" Range of tensile strength 28/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams TRBS long. seams TRBS Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 1/8" Lap of plates or width of butt straps 1 1/2"

Per centages of strength of longitudinal joint rivets 86.16% Working pressure of shell by rules 185 lbs Size of manhole in shell 16" x 12" plate 85.24%

Size of compensating ring 7 x 1 1/8" No. and Description of Furnaces in each boiler 3 Plain Material Steel Outside diameter 3-4"

Length of plain part top 36-6 1/2" Thickness of plates crown 3 1/2" Description of longitudinal joint Welded No. of strengthening rings No bottom 3 1/2"

Working pressure of furnace by the rules 185 lbs Combustion chamber plates: Material Steel Thickness: Sides 2 1/2" Back 2 1/2" Top 2 1/2" Bottom 2 1/2"

Pitch of stays to ditto: Sides 9 1/2" x 10" Back 9 1/8" x 8 1/4" Top 9 1/2" x 10" If stays are fitted with nuts or riveted heads No Working pressure by rules 187 sides

Material of stays Steel Area at smallest part 2.07" Area supported by each stay 95.500 Working pressure by rules 190 lbs End plates in steam space: Material Steel Thickness 1 1/8" Pitch of stays 18" x 18" How are stays secured IN & N Working pressure by rules 185 lbs Material of stays Steel

Area at smallest part 5.79" Area supported by each stay 324" Working pressure by rules 185 lbs Material of Front plates at bottom Steel Thickness 1 1/2" Material of Lower back plate Steel Thickness 2 1/2" Greatest pitch of stays 15" x 9 1/8" Working pressure of plate by rules 182

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 1 1/2" Back 1 1/2" Mean pitch of stays 10.6"

Pitch across wide water spaces 15" Working pressures by rules 181 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 1/2" x 1 1/2" Length as per rule 2-8 1/2" Distance apart 9 1/2" Number and pitch of stays in each 2 @ 10"

Working pressure by rules 268 lbs Steam dome: description of joint to shell No % of strength of joint No

Diameter No Thickness of shell plates No Material No Description of longitudinal joint No Diam. of rivet holes No

Pitch of rivets No Working pressure of shell by rules No Crown plates No Thickness No How stayed No

**SUPERHEATER.** Type No Date of Approval of Plan No Tested by Hydraulic Pressure to No

Date of Test No Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler No

Diameter of Safety Valve No Pressure to which each is adjusted No Is Easing Gear fitted No

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *-*

SPARE GEAR. State the articles supplied:— *Two top end two bottom end two main bearing & one set coupling bolts & nuts, one set air feed & bilge pump valves, one main & one donkey check valve & seat, two donkey pump valves & junk ring studs & nuts, one safety valve spring a quantity of assorted bolts & nuts & iron of various sizes.*

The foregoing is a correct description,  
FOR CHARLES D. HOLMES & Co. LTD.

*J. R. Cooper*

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1920:— Aug 3, 20, 24, 30, 31, Sep 17, Nov 1, 19, Dec 2, 9, 10, 13, 14, 16, 20, 24, 31, 1921:— Jan 10  
During erection on board vessel - - - } 14, 17, 20, 21, 24, 26, 31, Feb 2, 10, 11, 14, 16, 17, 18, 20, 24, Mar 1, 2, 14, 21, 22, 23, 30, Apr 1, 9  
Total No. of visits 50.

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

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

Dates of Examination of principal parts—Cylinders *10/2/21* Slides *10/2/21* Covers *10/2/21* Pistons *10/2/21* Rods *13/12/20*  
Connecting rods *10/2/21* Crank shaft *10/1/21* Thrust shaft *10/1/21* Tunnel shafts *-* Screw shaft *31/8/20* Propeller *31/8/20*  
Stern tube *31/8/20* Steam pipes tested *22/3/21* Engine and boiler seatings *23/3/21* Engines holding down bolts *23/3/21*  
Completion of pumping arrangements *27/7/21* Boilers fixed *12/4/21* Engines tried under steam *12/4/21*  
Completion of fitting sea connections *17/9/20* Stern tube *17/9/20* Screw shaft and propeller *17/9/20*  
Main boiler safety valves adjusted *12/4/21* Thickness of adjusting washers *3/8" 5/8"*  
Material of Crank shaft *Steel* Identification Mark on Do. *2532* Material of Thrust shaft *Steel* Identification Mark on Do. *2533*  
Material of Tunnel shafts *-* Identification Marks on Do. *-* Material of Screw shafts *Steel* Identification Marks on Do. *2491*  
Material of Steam Pipes *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. *Yes*

Have the requirements of Section 49 of the Rules been complied with *Yes*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *S.S. BEESTON.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boiler of this vessel have been built under special survey & the materials & workmanship are good.*

*On completion the machinery was tried under full working conditions while moored to the Quay Wall with satisfactory results.*

*The machinery throughout is now in a good & efficient condition & eligible in my opinion to have the record LMC-8-21 marked in Red in the British Register Book.*

*It is submitted that this vessel is eligible for THE RECORD. + LMC 8.21 CL*

*Roll*  
*21/9/21*

*J. G. G. G.*  
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ *2-0-0* When applied for, 16-9-1921  
Special ... £ *21-5-0*  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :

Committee's Minute *FRI. 30 SEP. 1921*

Assigned *+ LMC 8.21 C.L.*

Certificate (if required) to be sent to Hull

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

MACHINERY CERT. (M.L.T.)



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