

Rpt. 4.

REPORT ON MACHINERY.

No. 3235

Received at London Office

Date of writing Report 20th Oct 1922 When handed in at Local Office 28th Oct 1922 Port of Baltimore Md. Date, First Survey 12th June 1920 Last Survey 20th Oct 1922
 No. in Survey held at Reg. Book. 59984 on the S. S. "Fort Mc Henry" (Number of Visits 63)
 Master Built at Baltimore By whom built Bethlehem S. B. Corpn. Gross 4218 Tons Net 2511
 Engines made at Baltimore Md. By whom made Ellicott Machine Corpn. When built 1922
 Boilers made at " " By whom made Bethlehem S. B. Corpn. when made 1921
 Registered Horse Power Owners Bethlehem Shipbuilding Corporation Port belonging to Baltimore
 Nom. Horse Power as per Section 28 395 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Reciprocating Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 23"-39"-65" Length of Stroke 42" Revs. per minute 84 Dia. of Screw shaft as per rule 13.29 as fitted 13.5 Material of Ingot Stl
 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 ✓ If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 4'-6" ✓
 Dia. of Tunnel shaft as per rule 11.98 as fitted 12.75 Dia. of Crank shaft journals as per rule 12.58 as fitted 12.76 Dia. of Crank pin 13" Size of Crank webs 9"x25 1/2" Dia. of thrust shaft under
 collars 12 3/4" Dia. of screw 16" Pitch of Screw 15" No. of Blades 4 State whether moveable No Total surface 83.8 sq ft
 No. of Feed pumps 2 Diameter of ditto 3 3/4" Stroke 16" Can one be overhauled while the other is at work Yes also 1-2" injector ✓
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 16" Can one be overhauled while the other is at work Yes ✓
 No. of Donkey Engines 5 Sizes of Pumps 2-0.16"x10"x18" 2-0.7 1/2"x6"x10" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2-3 1/2" + 1-3" In Holds, &c. In fore hold 2-3 1/2" In pump room 2-2 1/2"
 4 2-6" Connected to large oil pump. 2-1 1/2" ejectors - Cham locker - forepeak.
 No. of Bilge Injections 1 sizes 8" Connected to condenser to circulating pump ✓ Is a separate Donkey Suction fitted in Engine room & size Yes - 3 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 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 stokehold plates Yes Are the Discharge Pipes above or below the deep water line Both ✓
 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 Oil fuel How are they protected ✓
 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 None Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record (S/)) Manufacturers of Steel Lukens Iron & Steel Co. Coatesville Pa. 2325 B. M. 12/22
 Total Heating Surface of Boilers 5704 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single End Scotch
 Working Pressure 200 lbs Tested by hydraulic pressure to 300 lbs Date of test 1/3/21 - 3/8/21 No. of Certificate 195-204
 Can each boiler be worked separately Yes Area of fire grate in each boiler Oil fuel. No. and Description of Safety Valves to
 each boiler 2 Direct Spring Area of each valve 7.62 sq ft Pressure to which they are adjusted 200 lbs Are they fitted with easing gear Yes ✓
 Smallest distance between boilers or uptakes and bunkers or woodwork ✓ Mean dia. of boilers 15'-6" Length 11'-6" Material of shell plates S.
 Thickness 1 3/4" Range of tensile strength 28/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D. R. L. L.
 long. seams T. R. D. B. S. Diameter of rivet holes in long. seams 1 9/16" Pitch of rivets 10" 18" Lap of plates or width of butt straps 22 1/8"
 Per centages of strength of longitudinal joint rivets 88.65 plate 84.65 Working pressure of shell by rules 232 Size of manhole in shell 12" x 16"
 Size of compensating ring Flanged end plate No. and Description of Furnaces in each boiler 3 Morrison Material Stl Outside diameter 4'-1 1/4"
 Length of plain part top 58 bottom 58 Thickness of plates crown 58 bottom 58 Description of longitudinal joint Weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 204.5 Combustion chamber plates: Material Stl Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 7/8"
 Pitch of stays to ditto: Sides 8" x 4" Back 7/2 x 7/8" Top 8 3/4 x 8" If stays are fitted with riveted heads Yes Working pressure by rules 205
 Material of stays Stl Area at smallest part 1.727 sq ft Area supported by each stay 59 sq ft Working pressure by rules 234 End plates in steam space:
 Material Stl Thickness 1 3/16" Pitch of stays 17 3/4 x 17 3/4 How are stays secured D. N. + W. Working pressure by rules 206 Material of stays Stl
 Area at smallest part 7.23 sq ft Area supported by each stay 3.15 sq ft Working pressure by rules 206 Material of Front plates at bottom Stl
 Thickness 3/4" Material of Lower back plate 3/4 x 3/4" Sub. Thickness Greatest pitch of stays 16" Working pressure of plate by rules 221
 Diameter of tubes 3" Pitch of tubes 4" x 4 5/16" Material of tube plates Stl Thickness: Front 3/4 x 3/4" Bottom 25/32" Mean pitch of stays 8" x 8 5/8"
 Pitch across wide water spaces 14.5" Working pressures by rules 216 Girders to Chamber tops: Material Stl Depth and
 thickness of girder at centre 10 1/4 x 1 3/4" Length as per rule 34" Distance apart 8 3/4" Number and pitch of stays in each 3-8"
 Working pressure by rules 249 Steam dome: description of joint to shell ✓ % of strength of joint ✓
 Diameter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓
 Pitch of rivets ✓ Working pressure of shell by rules ✓ Crown plates ✓ Thickness ✓ How stayed ✓
 SUPERHEATER. Type ✓ Date of Approval of Plan ✓ Tested by Hydraulic Pressure to ✓
 Date of Test ✓ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler ✓
 Diameter of Safety Valve ✓ Pressure to which each is adjusted ✓ Is Easing Gear fitted ✓

1810-0181

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IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:—4 connecting rod top end bolts. 2 ditto bottom end bolts, 2 main bearing bolts, 1 set coupling bolts, 1 set of feed & bilge pump valves, 1 set piston springs, quantity of assorted bolts & nuts, iron & brass of various sizes. 1 set Crank pin brasses, 1 eccentric strap. 1 set of springs, valves, guards & seats for each donkey pump. Valves, seats, guards & springs for cargo oil pumps. Coils for feed water heater & evaporator etc.

The foregoing is a correct description,

BETHLEHEM SHIPBUILDING CORPORATION, LTD.
BALTIMORE DRY DOCKS PLANT

[Signature]

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1920 June 12.26, July 2.8.23, Aug 18.31, Sep 4.11.17, 28 Oct. 20, Nov 4.17, Dec 1.9.14, 1921 Jan 6.11.21, 25.29, Feb 2.10, March 1.4.5.15, May 13.16.17, June 1.28, July 6.19, Aug 3.6.24.27, Dec 12.15.16, 1922 Jan 23.30, Feb 18.21, March 20.29.30.31, Apr 3.8.13.22, May 3, June 5.16, Sept 30, Oct 20
During erection on board vessel -- Dec 12.15.16, 1922 Jan 23.30, Feb 18.21, March 20.29.30.31, Apr 3.8.13.22, May 3, June 5.16, Sept 30, Oct 20
Total No. of visits 63

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 17.9.20 Slides 23.7.20 Covers 28.4.20 Pistons 11.9.20 Rods 18.8.20

Connecting rods 12.6.20 Crank shaft 19.7.21 Thrust shaft 26.6.20 Tunnel shafts 16/12/21 Screw shaft 16/12/21 Propeller 16/12/21

Stern tube 12.12.21 Steam pipes tested 30.3.22 Engine and boiler seatings 30.1.22 Engines holding down bolts 22.4.22

Completion of pumping arrangements 16.6.22 Boilers fixed 21.2.22 Engines tried under steam 5.6.22 ✓

Completion of fitting sea connections 23.1.22 Stern tube 15.12.21 Screw shaft and propeller 23.1.22

Main boiler safety valves adjusted 5.6.22 ✓ Thickness of adjusting washers P.B. P+S. 1" S.B. P+S. 1 3/16

Material of Crank shaft Steel Identification Mark on Do. 2847 H.B. Material of Thrust shaft Steel Identification Mark on Do. 715 J.S.

Material of Tunnel shafts Steel Identification Marks on Do. 7390 J.W. Material of Screw shafts Steel Identification Marks on Do. 3166 F.A.

Material of Steam Pipes Steel Test pressure 600 lbs

Is an installation fitted for burning oil fuel

Yes

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

No

If so, state name of vessel

✓

General Remarks (State quality of workmanship, opinions as to class, &c. (The boiler plans were prepared & approved under old rules)

The Engines & Boilers of this vessel have been constructed & installed under Special Survey and in accordance with the Rules of this Society & the approved plans. The material tested by Society's Surveyors & the workmanship is good. The engine & boilers examined under steam & found satisfactory rendering the vessel eligible in my opinion for notation L.M.C. 10.22.

F.D. Electric Light. Machinery Aft. Fitted for oil fuel 10.22 F.P. above 150°F

It is submitted that
this vessel is eligible for
THE RECORD.

+ L.M.C. 10.22. F.D. C.L.

"Fitted for oil fuel" 10.22. F.P. above 150°F.

A.H.B.

15/11/22

[Signature]

The amount of Entry Fee ... £ #25.00 :
Special ... £ #42.25 :
Donkey Boiler Fee ... £ #175.00 :
Travelling Expenses (if any) £ #4.00 :
When applied for, 27/10/1922
When received, 9.12.22

H.A. Stewart
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

+ L.M.C. 10.22

MACHINERY DEPT.
WRITTEN 22/11/22
dated 13/11/22



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