

REC'D NEW YORK AUG 26 1920

pt. 4.

REPORT ON MACHINERY

No. 103

Received at London Office TUE. SEP. 14 1920

Date of writing Report 31st July 1920 When handed in at Local Office

Port of Wilmington N.C.

Date, First Survey 24th April 1920 Last Survey 17th July 1920

on the Steel Screw Steamer "Nemaha"

(Number of Visits) Tons { Gross 6527 Net 4049 When built 1920-7

Master J. S. Lynch Built at Wilmington N.C. By whom built George A. Fuller & Co.

Engines made at Buffalo N.Y. By whom made O'Neil Iron Works when made 1920

Boilers made at Buffalo N.Y. By whom made Barber Asphalt Paving Co. when made 1919

Registered Horse Power Owners United States Shipping Board Port belonging to Wilmington N.C.

Horse Power as per Section 28 590 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

No. of Cylinders 2 4 1/2 4 1 1/2 7 2 Length of Stroke 48 Revs. per minute 88 Dia. of Screw shaft as per rule 14 3/8 8 6 Material of screw shaft as fitted 15 7/32 screw shaft

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

propeller boss Yes If the liner is in more than one length are the joints burned If the liner does not fit tightly at the part

the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two

are fitted, is the shaft lapped or protected between the liners Length of stern bush 61"

Tunnel shaft as per rule 13 0/4 Dia. of Crank shaft journals as per rule 13 7/8 Dia. of Crank pin Size of Crank webs Dia. of thrust shaft under

Dia. of screw 17 0 Pitch of Screw 13 1 No. of Blades 4 State whether moveable Yes Total surface 88 18 8

Feed pumps 2 Diameter of ditto 12 x 8 Stroke 24 Can one be overhauled while the other is at work Yes

Bilge pumps 2 Diameter of ditto 5 Stroke 21 Can one be overhauled while the other is at work Yes

Donkey Engines 2 Sizes of Pumps 12 x 8 1/2 x 12 7 12 x 10 1/4 x 12 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 3-3 1/2 Bilge suction Centre, Port & Star In Holds, &c. 2-4 suction from Fore & Aft Peaks 1.2.3.5 & 6

double bottom tanks & 3 Bilge suction from Fore & Aft Wells, Centre, Port & Star

Bilge Injections 1 sizes 10 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2"

Are 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 connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Cocks

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

Are the pipes carried through the bunkers Suctions from Peaks & double bottom How are they protected Hood covering

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 Yes Is it fitted with a watertight door Yes worked from upper deck gratings in engine room

MANUFACTURERS, &c.—(Letter for record) Manufacturers of Steel

HEATING SURFACE OF BOILERS Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to

each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Least distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Weight Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

Seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Advantages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Thickness of plates top crown bottom Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Working pressure of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Material at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Material of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Working pressure across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

Working pressure of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules Steam dome: description of joint to shell % of strength of joint

Material 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

IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 25 Main Condenser tubes 25 Auxiliary Condenser tubes
2 Safety valve springs 6 Boiler tubes 1 set of Feed and Bidge Pump Valves. A quantity
of Assorted bolts and nuts and iron of various sizes.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- }
{ During erection on board vessel -- }
Total No. of visits 1920. April 5. 12. 14. 16. 22. 24. 28. May 8. 17. June 11. 15. 17. 24. 30. July 2. 10. 17.

Is the approved plan of main boiler forwarded herewith *No*

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods
" " " donkey " " "

Connecting rods Crank shaft Thrust shaft Tunnel shafts 12. 11. 18. Screw shaft 9. 12. 18. Propeller 9. 12. 18.
Stern tube 27. 3. 20. Steam pipes tested 8. 5. 20. Engine and boiler seatings 14. 4. 20. Engines holding down bolts 17. 5. 20.
Completion of pumping arrangements 17. 6. 20. Boilers fixed 17. 5. 20. Engines tried under steam 17. 6. 20.
Completion of fitting sea connections 24. 4. 20. Stern tube 27. 3. 20. Screw shaft and propeller 27. 3. 20.
Main boiler safety valves adjusted 15. 6. 20. Thickness of adjusting washers *No washers*

Material of Crank shaft Identification Mark on Do. Material of Thrust shaft Identification Mark on Do.
Material of Tunnel shafts *o.r. steel* Identification Marks on Do. *145. 132. 135. 133* Material of Screw shafts *o.r. steel* Identification Marks on Do. *154. 142*
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 *Yes* If so, state name of vessel *Steamer "Cranford" #1*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery has been properly fitted on board and on completion tried under steam and found satisfactory.
In my opinion the vessel is eligible for the record. L.M.C. 7.20

It is submitted that
this vessel is eligible for
THE RECORD. L.M.C. 7.20 FI
3 Watertube Boilers
Fitted for Oil Fuel 7.20 FP above 150°F
Subject to the Water Tube Boilers 3
being surveyed annually.

R.M.
18/9/20
J.P.R.

The amount of Entry Fee ... £ : : When applied for.
Special ... £ *#82.50.* : :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When received.

Geo. Allan
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned *lmb 7.20*
New York AUG 31 1920
MACHINERY DEPT.
MAILED 14.9.20

