

REPORT ON MACHINERY.

MUN. 21 JUL 1902

LLOYD'S REGISTER,
N. YK.

Port of Philadelphia

Received at London Office

10th July 02nd Philadelphia

Date, first Survey 27. 1-02

Last Survey

June 28th 1902

No. of Survey held at

(Number of Visits 26

Reg. Book.

40 on the

s.s. "Kroonland"

Gross / 2760
Tons Net 7927

When built 1902-6

Master C. H. Dornd Built at Philadelphia By whom built Wm Cramp Sons & Co

Engines made at Philadelphia By whom made Wm Cramp Sons & Co when made 1902-6

Boilers made at Philadelphia By whom made Wm Cramp Sons & Co when made 1902-6

Registered Horse Power 1 Owners International Navigation Co Port belonging to New York

Nom. Horse Power as per Section 28 1540 Is Refrigerating Machinery fitted No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin screw, triple No. of Cylinders 6 No. of Cranks 6

Dia. of Cylinders 32 $\frac{1}{2}$, 54, 89 $\frac{1}{2}$ (2 each) Length of Stroke 54" Revs. per minute 88 Dia. of Screw shaft as per rule 16.9" as fitted 18.7" Lgth. of stern bush 5.8"Dia. of Tunnel shaft as fitted 15.7" Dia. of Crank shaft journals as per rule 16.59" as fitted 16.4" Dia. of Crank pin 17 $\frac{1}{2}$ " Size of Crank webs 12 $\frac{1}{4}$ x 27 $\frac{1}{2}$ " Dia. of thrust shaft under collars 16 $\frac{3}{4}$ " Dia. of screw 17.0" Pitch of screw 22.0" No. of blades 4 State whether moveable yes Total surface 88 sq ft

No. of Feed pumps 3 Diameter of ditto 14 x 10 Stroke 15" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 7 $\frac{1}{2}$ x 10 $\frac{1}{4}$ Stroke 10" Can one be overhauled while the other is at work yesNo. of Donkey Engines 8 Sizes of Pumps (2) 9" x 12" x 10", (2) 7 $\frac{1}{2}$ x 10 $\frac{1}{4}$ x 10" No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room 9-3 $\frac{1}{2}$ x 2-6" (2) 5" x 7 $\frac{1}{2}$ x 6", (1) 7" x 10" x 10" In Holds, &c. fore peak 2-3 $\frac{1}{2}$ ", nos 1 to 10 holds 1-3 $\frac{1}{2}$ "each, tunnel wells 1-3 $\frac{1}{2}$ " each, after peak 1-3 $\frac{1}{2}$ "

No. of bilge injections 2 sizes 12" Connected to condenser, or to circulating pump pump Is a separate donkey suction fitted in Engine room & size yes, 2-6"

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 below

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 none 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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock before launch Is the screw shaft tunnel watertight yes

Is it fitted with a watertight door yes worked from main deck

OILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 22408 sq ft Is forced draft fitted yes

No. and Description of Boilers 9 Hull Single ended Working Pressure 170 lbs Tested by hydraulic pressure to 340 lbs

Date of test 1901 Can each boiler be worked separately yes Area of fire grate in each boiler 41.5 sq ft No. and Description of safety valves to

each boiler 2 direct spring Area of each valve 12.56 sq ft Pressure to which they are adjusted 175 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers 12" Mean dia. of boilers 15.7 $\frac{1}{2}$ " Length 10' 4" Material of shell plates steelThickness 1 $\frac{1}{4}$ " Range of tensile strength 24,320 Are they welded or flanged no Descrip. of riveting: cir. seams d, r lap long. seams d, b, s, t, rDiameter of rivet holes in long. seams 1 $\frac{1}{16}$ " Pitch of rivets 8 $\frac{1}{8}$ " Top of plates or width of butt straps 23 $\frac{1}{4}$ "

Percentage of strength of longitudinal joint rivets 96.7 plate 82.4 Working pressure of shell by rules 177 lbs Size of manhole in shell 16 x 12

Size of compensating ring 37 $\frac{1}{2}$ x 40 $\frac{3}{16}$ No. and Description of Furnaces in each boiler 4 504 lbs Material steel Outside diameter 43 $\frac{1}{16}$ "

Length of plain part top 4" bottom 4" Thickness of plates crown 17" bottom 32" Description of longitudinal joint welded No. of strengthening rings 3 c.c.b.

Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material steel Thickness: Sides 9" Back 9" Top 9" Bottom 9"

Pitch of stays to ditto: Sides 6 $\frac{1}{8}$ x 7 $\frac{3}{4}$ Back 6 $\frac{1}{8}$ x 7 $\frac{3}{4}$ Top 6 $\frac{1}{8}$ x 7 $\frac{3}{4}$ If stays are fitted with nuts or riveted heads nuts + rivets Working pressure by rules 195 lbsMaterial of stays steel Diameter at smallest part 1 $\frac{1}{4}$ " Area supported by each stay 53.28 sq ft Working pressure by rules 200 lbs End plates in steam space:Material steel Thickness 1 $\frac{1}{4}$ " Pitch of stays 16 x 16 How are stays secured d, n Working pressure by rules 215 lbs Material of stays steelDiameter at smallest part 2 $\frac{5}{8}$ " Area supported by each stay 256 sq ft Working pressure by rules 212 lbs Material of Front plates at bottom steelThickness 3 $\frac{3}{4}$ " Material of Lower back plate steel Thickness 3 $\frac{3}{4}$ " Greatest pitch of stays 13 x 6 $\frac{3}{8}$ Working pressure of plate by rules 204 lbsDiameter of tubes 2 $\frac{3}{4}$ " Pitch of tubes 3 $\frac{3}{8}$ x 4 $\frac{1}{8}$ Material of tube plates steel Thickness: Front 5" Back 5" Mean pitch of stays like headedPitch across wide water spaces 6 $\frac{1}{2}$ " Working pressures by rules 170 lbs Girders to Chamber tops: Material steel Depth andThickness of girder at centre 8 $\frac{1}{4}$ x 1 $\frac{1}{4}$ " Length as per rule 31" Distance apart 6 $\frac{1}{2}$ " Number and pitch of Stays in each 3-7 $\frac{3}{4}$ "

Working pressure by rules 188 lbs Superheater or Steam chest; how connected to boiler none 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

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Lloyd's Register
Foundation

W687 0358

DONKEY BOILER— No. 1 Description Mult, single ended, one corrugated furnace
Made at Philadelphia By whom made Wm Cramp & Sons Ltd C When made 1902 Where fixed main deck
Working pressure 140 # tested by hydraulic pressure to 340 # No. of Certificate 2 Fire grate area 9 3/4 # Description of safety valves direct spring
No. of safety valves 1 Area of each 4.9 # Pressure to which they are adjusted 140 # If fitted with easing gear yes If steam from main boilers enter the donkey boiler no
Dia. of donkey boiler 6.0 # Length 4.0 # Material of shell plates steel Thickness 1/32 # Range of tens strength 27,32 Descrip. of riveting long. seams D.B.S., T.R Dia. of rivet holes 15/16 # Whether punched or drilled drill Pitch of rivets 4 1/2 #
But straps 13 1/2 # Per centage of strength of joint Rivets 86 Plates 79. Thickness of shell end plates 29/32 # Radius of do. Pitch No. of Stays to do. 13 #
Dia. of stays. 2 1/4 # Diameter of furnace 29 1/2 # Bottom # Length of furnace 4.7 # Thickness of furnace plates 13/32 # Description joint weld Thickness of furnace crown plates 9/16 # Stayed by 1 3/8 # stays pitch 6 x 4 # Working pressure of shell by rules 145 #
Working pressure of furnace by rules 140 # Diameter of tubes 3 # Thickness of tubes plates 29/32 # B 2 1/2 # Thickness of stay tubes 3/16 #

SPARE GEAR. State the articles supplied:— Four top end bolts, two bottom end and two main beam bolts, three sets feed pump valves, two sets bilge pump valves, three sets piston springs, one piston rod for centrifugal pump, two sets main crank pin three slide valve rods & a quantity of small gear for auxiliaries.

The foregoing is a correct description,

Chas W Cramp Manufacturer.

Dates of Survey { During progress of work in shops - 1902 Jan 27, Feb 3, 5, 10, 18, 20
During erection on board vessel - Feb 21, 28, March 3, 12, 18, 24, 26, 29, April 2, 7, 17, 23, 29, May 2, 9, 23, 29, June 3, 16, 21
while building { Total No. of visits 27

Is the approved plan of main boiler forwarded herewith no

donkey " " " no

General Remarks (State quality of workmanship, opinions as to class, &c. Boiler plans retained for dealing with sister vessel.

All shafting is of hollow, ingot steel, internal dia 8". * Date of Contract 11-1899

Material of screw shaft Ingot steel Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes, but not between 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 no
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 non-corrosive V If two liners are fitted, is the shaft lapped or protected between the liners no

The machinery of this vessel has been constructed & fitted on board under Special Survey, the workmanship is sound & good.

The machinery has been tried under steam as required by the Rules & found satisfactory and the vessel is in my opinion eligible for the record of + L M C 6-02 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L M C 6. 02. F.D. Acc. light

C.M.

22.7.02

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Mr Haug receives \$279 of the special survey fee.

The amount of Entry Fee.. \$ 15.00 : When applied for, 7.7.1902
Special .. \$ 485.00 :
Donkey Boiler Fee .. \$ 10.00 :
Travelling Expenses (if any) £ 33.50 :
Total = \$543.50
Committee's Minute

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

Robert Haug.

Assigned

FRI. 25 JUL 1902

FRI. 15 AUG 1902

TUES. 2 SEP 1902

Lloyd's Register Foundation

MACHINERY CERTIFICATE