

REPORT ON MACHINERY

No. 17977
W.F.U. 22 MAR. 1922

Received at London Office

Date of writing Report 19 When handed in at Local Office 10/3/ 1922 Port of Greenock

No. in Survey held at Greenock Date, First Survey 6th May, 1920 Last Survey 8th March, 1922
Reg. Book. on the Steel Steamer "Jernuzen" (Number of Visits 120)

Master Built at Greenock By whom built Geo Brown & Co Tons { Gross 2472
Net 1489
When built 1922

Engines made at Greenock By whom made John S Kincaid & Co Ltd when made 1922

Boilers made at Greenock By whom made John S Kincaid & Co Ltd when made 1922

Registered Horse Power Owners A. C. Jensen Port belonging to Jernuzen

Nom. Horse Power as per Section 28 258 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 22-36-59 Length of Stroke 39 Revs. per minute 73 Dia. of Screw shaft as per rule 12.41 Material of screw shaft Steel
as fitted 12.78

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 Yes If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 5 1/2

Dia. of Tunnel shaft as per rule 10.55 Dia. of Crank shaft journals as per rule 11.44 Dia. of Crank pin 1 1/2 Size of Crank web 17 1/2 x 7 1/2 Dia. of thrust shaft under collars 1 1/2 Dia. of screw 15.6 Pitch of Screw 15.6 No. of Blades 4 State whether moveable Yes Total surface 74 sq ft

No. of Feed pumps Two Diameter of ditto 3 1/2 Stroke 22 Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 3 1/2 Stroke 22 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three Sizes of Pumps 4 1/2, 6, 9, 10, 5 1/2, 5 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 3" In Holds, &c. One 3" Tunnel 2 1/2"

No. of Bilge Injections One sizes 6" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 3"

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 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

What pipes are carried through the bunkers None How are they protected None

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 Top Station

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Beardmore & Co. Lancaster

Total Heating Surface of Boilers 4272 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Two Single Ended

Working Pressure 180 lbs Tested by hydraulic pressure to 320 lbs Date of test 8-6-21 No. of Certificate 1574

Can each boiler be worked separately Yes Area of fire grate in each boiler 60.4 sq ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 7.07 sq in 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 17 1/2" Mean dia. of boilers 15-0" Length 10-6" Material of shell plates Steel

Thickness 1 1/2" Range of tensile strength 28-32 Are the shell plates welded or flanged Yes Descrip. of riveting: End seams all with long seams Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/4" Lap of plates or width of butt straps 18 1/2"

Per centages of strength of longitudinal joint rivets 85.62 plate 85.71 Working pressure of shell by rules 184 lbs Size of manhole in shell 16-12"

Size of compensating ring Flanged 7 1/2" No. and Description of Furnaces in each boiler 3 Deighlin Material Steel Outside diameter 48 1/2"

Length of plain part top None bottom None Thickness of plates crown 9/16" bottom 9/16" Description of longitudinal joint Welded No. of strengthening rings One

Working pressure of furnace by the rules 182 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 2 1/2" Top 9/16" Bottom 1 1/4"

Pitch of stays to ditto: Sides 7 1/2-8" Back 10-8" Top 7 1/2-8" If stays are fitted with nuts or riveted heads None Working pressure by rules 181 lbs

Material of stays Steel Area at smallest part 1.79 sq in Area supported by each stay 80 sq in Working pressure by rules 201 lbs End plates in steam space: Material Steel Thickness 1 1/2" Pitch of stays 20 1/2-20" How are stays secured All nuts Working pressure by rules 182 lbs Material of stays Steel

Area at smallest part 7.5 sq in Area supported by each stay 410 sq in Working pressure by rules 190 lbs Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 1 1/4" Greatest pitch of stays 15 1/2" Working pressure of plate by rules 185 lbs

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2-4 1/2" Material of tube plates Steel Thickness: Front 1" Back 1 1/4" Mean pitch of stays 10"

Pitch across wide water spaces 14" Working pressures by rules 182 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/2-14" Length as per rule 31" Distance apart 8" Number and pitch of stays in each Three 7 1/2"

Working pressure by rules 181 lbs Steam dome: description of joint to shell None % of strength of joint None

Diameter None Thickness of shell plates None Material None Description of longitudinal joint None Diam. of rivet holes None

Pitch of rivets None Working pressure of shell by rules None Crown plates None Thickness None How stayed None

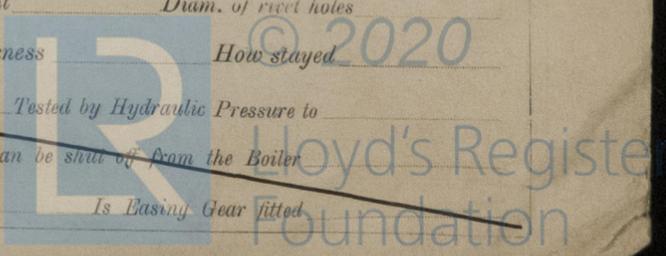
SUPERHEATER. Type None Date of Approval of Plan None Tested by Hydraulic Pressure to None

Date of Test None Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler None

Diameter of Safety Valve None Pressure to which each is adjusted None Is Easing Gear fitted None

17977

9810-LS6E00-646E00



IS A DONKEY BOILER FITTED? *Yes*

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

SPARE GEAR. State the articles supplied:— *Two top end bolts Two bottom end bolts. Two main bearing bolts. One set coupling bolts. One set and pump valves. One set bridge pump valves. One escape valve opening each side. Bolts nuts etc*

The foregoing is a correct description,
FOR JOHN G. KINCAID & COY., LIMITED.

Robert Green Manufacturer.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel ---
Total No. of visits *120*

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

Dates of Examination of principal parts—Cylinders *7/4/21* Slides *19/4/21* Covers *7/4/21* Pistons *18/4/21* Rods *22/4/21*
Connecting rods *4/9/20* Crank shaft *28/1/21* Thrust shaft *11/1/21* Tunnel shafts *25/1/22* Screw shaft *22/5/21* Propeller *26/4/21*
Stern tube *5/9/21* Steam pipes tested *9/2/22 16/2/22* Engine and boiler seatings *16/12/21* Engines holding down bolts *10/2/22*
Completion of pumping arrangements *10/2/22* Boilers fixed *17/2/22* Engines tried under steam *2/3/22*
Completion of fitting sea connections *16/12/21* Stern tube *16/12/21* Screw shaft and propeller *26/12/21*
Main boiler safety valves adjusted *2/4/22* Thickness of adjusting washers *Pat 5 1/2" - Pat 5 1/2" - 5 1/2"*

Material of Crank shaft *Steel* Identification Mark on Do. *396* Material of Thrust shaft *Steel* Identification Mark on Do. *396*
Material of Tunnel shafts *Steel* Identification Marks on Do. *396* Material of Screw shafts *Steel* Identification Marks on Do. *396*
Material of Steam Pipes *Copper* Test pressure *400 lb*

Is an installation fitted for burning oil fuel *Yes* Is the flash point of the oil to be used over 150°F. —

Have the requirements of Section 49 of the Rules been complied with —

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

General Remarks (State quality of workmanship, opinions as to class, &c. *Workmanship Good.*

The machinery and boilers of this steamer have been constructed under special survey and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition and the case is respectfully submitted for the certification of L.M.C. 22 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. *L.M.C. - 3.22. C.L.*

L.G.
24/3/22. P.M.S.j

GREENOOK
Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ *4:0* :
Special ... £ *63:14* :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, *13/3/1922*
When received, *17/3/1922*

James James
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 31 MAR 1922*

Assigned *+ L.M.C. 3.22*

MACHINERY DEPT.
WRITTEN *24/3/22*
dated *22.3.22*

