

REPORT ON MACHINERY

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

Date of writing Report

19

When handed in at Local Office

10/3/ 1922 Port of GreenockNo. in Survey held at
Reg. Book.GreenockDate, First Survey 6th May, 1920 Last Survey 8th March, 1922

on the

Steel Steamer "Jernugen"(Number of Visits 120)Tons { Gross 2472
Net 1489When built 1922

Master

Built at GreenockBy whom built Geo Brown & CoEngines made at GreenockBy whom made John S Kincaid & Co Ltd when made 1922Boilers made at GreenockBy whom made John S Kincaid & Co Ltd when made 1922

Registered Horse Power

Owners A. C. JensenPort belonging to JernugenNom. 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 75 Dia. of Screw shaft as per rule 12.41 Material of Steel
 as fitted 12.41 screw shaft
 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 11.41 ✓ Dia. of Crank pin 1 1/2" Size of Crank web 17 1/2"-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"-9"-10"-5 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 3" In Holds, &c. One 3" Tunnel 1 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 Yes How are they protected Yes ✓
 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 Platform ✓

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

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: Seams all with
 long. seams all with 3/16" 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 85.62 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 Thickness of plates crown Description of longitudinal joint Welded No. of strengthening rings Flanged
 bottom bottom Working pressure of furnace by the rules 182 lbs Combustion chamber plates: Material Steel Thickness: Sides 7/16" Back 2 1/2" Top 7/16" 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 Yes Working pressure by rules 181 lbs ✓
 Material of stays Steel Area at smallest part 1.79 sq in Area supported by each stay 80" 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 with 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 Yes % of strength of joint Yes ✓
 Diameter Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes
 Pitch of rivets Yes Working pressure of shell by rules Yes Crown plates Yes Thickness Yes How stayed Yes ✓

SUPERHEATER. Type Yes Date of Approval of Plan Yes Tested by Hydraulic Pressure to Yes
 Date of Test Yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes
 Diameter of Safety Valve Yes Pressure to which each is adjusted Yes Is Easing Gear fitted Yes

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:— The top end bolts Two bottom end bolts. Two main bearing bolts. One set coupling bolts. One set and pump valve. One set bridge pump valve. One escape valve opening each side. Bolts nuts, &c

The foregoing is a correct description,

FOR JOHN G. KINCAID & COY., LIMITED.

Robert Greer

Manufacturer.

Dates of Survey while building

During progress of work in shops - -
During erection on board vessel - - -
Total No. of visits

1920. May. 6. 15. 18. 25. June 7. 17. 21. July 16. 19. 23. 26. 27. Aug. 9. 9. 12. 16. 20. 23. 25. 27. 30. Sept. 4. 7. 8. 10. 13. 22. 27. Oct. 1. 20. Nov. 2. 8. 25. 29. Dec. 2. 10. 13. 16. 21. 23. 25. (1921) Jan. 11. 13. 15. 21. 25. 26. 28. Feb. 4. 8. 10. 14. 16. 18. 23. 25. Mar. 1. 3. 4. 7. 9. 11. 15. 18. 22. 30. 31. Apr. 5. 7. 8. 12. 15. 18. 20. 21. 26. 29. May. 2. 4. 6. 11. 13. 16. 19. 24. 25. 26. 27. June 2. 6. 8. 14. 16. July 21. 25. Aug. 6. 9. 10. Sept. 5. 9. 22. Oct. 7. 12. Dec. 16. 26. (1922) Jan. 10. 24. 25. Feb. 2. 6. 7. 8. 10. 13. 16. 17. 24. 28. Mar. 2. 8.

120.

Is the approved plan of main boiler forwarded herewith

" " " 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 14/1/21 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 16/4/22 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 1/2" - Pat 5 1 1/2" - Pat 5 1 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 In 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 In If so, state name of vessel -

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

The Machinery and Fitters 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.

F L.M.C. - 3.22. C.L.

L.Y. 24/3/22. P.M.S.

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



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