

REPORT ON MACHINERY.

No. 670

FRI. OCT. 19 1923

Date of writing Report 14th Oct 1923 When handed in at Local Office

19 Port of Arrived

No. in Survey held at
Reg. Book.

Date, First Survey 1st February Last Survey 11th Oct 1923

(Number of Visits 23)

41554 on the Steel Single Screw Steamer 'ZEMBRA'

Gross 5074
Net 2823

Master

Built at Gjestumünde

By whom built J. Sebeck A.G.

When built 1923

Engines made at Gjestumünde

By whom made J. Sebeck A.G.

when made 1923

Boilers made at Gjestumünde

By whom made J. Sebeck A.G.

when made 1923

Registered Horse Power

Owners F. G. Strick & Co. Ltd.

Port belonging to Swansea

Nom. Horse Power as per Section 28 347

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c. Description of Engines Triple Expansion
Dia. of Cylinders 590, 980, 1600 m/m Length of Stroke 433 1/8" Revs. per minute 80
Dia. of Screw shaft as per rule 348 m/m as fitted 350 m/m Material of Ingot screw shaft Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No Liner 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 1540 m/m

Dia. of Tunnel shaft as per rule 310 m/m as fitted 310 m/m Dia. of Crank shaft journals as per rule 325 m/m as fitted 326 m/m Dia. of Crank pin 335 m/m Size of Crank web 220 x 630 Dia. of thrust shaft under collars 326 m/m Dia. of screw 5000 m/m Pitch of Screw 5030 m/m No. of Blades 4 State whether moveable Yes Total surface 8.362 m/m

No. of Feed pumps 2 Diameter of ditto 95 m/m Stroke 550 m/m Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 100 m Stroke 550 m Can one be overhauled while the other is at work Yes
No. of Donkey Engines 6 Sizes of Pumps given on other side No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 5: 72-80 m/m dia. In Holds, &c. 2 in each hold 76 m/m dia.

No. of Bilge Injections 1 size 85 m/m Connected to condenser, -- to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 80 m/m
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 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 Bilge suction pipes How are they protected wooden casings

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 Yes worked from

BOILERS, &c. (Letter for record 4736 D/F) Manufacturers of Steel J. Sebeck A.G. Arr. Gachmer Hütte
Total Heating Surface of Boilers 4404 sq ft Is Forced Draft fitted Yes No. and Description of Boiler 2 cylindrical multitubular
Working Pressure 14.5 kg Tested by hydraulic pressure to 19.5 kg Date of test 16.11.23 No. of Certificate
Can each boiler be worked separately Yes Area of fire grate in each boiler 5.35 m/m No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 7854 m/m Pressure to which they are adjusted 14.5 kg Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 280 m/m Mean dia. of boilers 4432 m/m Length 3690 m/m Material of shell plates Steel
Thicknes 32 m/m Range of tensile strength 45-52 kg Are the shell plates welded or flanged No Descrip. of riveting: cir. seams double
long. seams quadruple Diameter of rivet holes in long. seams 37 m/m Pitch of rivets 466 m/m Lap of plates or width of butt straps 740 m/m
Per centages of strength of longitudinal joint rivets 98 plate 92 Working pressure of shell by rules 14.5 kg Size of manhole in shell 350 x 450 m/m
Size of compensating ring 850 x 950 m/m No. and Description of Furnaces in each boiler 3, Marjonn Material Steel Outside diameter 1150 m/m
Length of plain part top Thickness of plates crown 15 m/m Description of longitudinal joint welded No. of strengthening rings
Working pressure of furnace by the rules 14.5 kg Combustion chamber plates: Material Steel Thickness: Sides 17 m/m Back 16.5 m/m Top 17 m/m Bottom 21 m/m
Pitch of stays to ditto: Sides 200 x 180 Back 200 x 180 Top 200 x 200 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 17.6 kg
Material of stays Steel Area at smallest part 10460 m/m Area supported by each stay 3600 m/m Working pressure by rules 18 kg End plates in steam space: Material Steel Thickness 29 m/m Pitch of stays 400 x 420 How are stays secured nuts & washers Working pressure by rules 16.8 kg Material of stays Steel
Area at smallest part 41850 m/m Area supported by each stay 1680 m/m Working pressure by rules 18.2 kg Material of Front plates at bottom Steel
Thicknes 27.5 Material of Lower back plate Steel Thicknes 25 m/m Greatest pitch of stays 360 x 180 Working pressure of plate by rules 18.7
Diameter of tubes 76 m/m Pitch of tubes 105 x 105 Material of tube plates Steel Thickness: Front 27.5 Back 22 m/m Mean pitch of stays 210 m/m
Pitch across wide water spaces 360 m/m Working pressures by rules 14.75 kg Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 240 x 2 x 18 Length as per rule 850 m/m Distance apart 200 Number and pitch of stays in each 3-200 m/m
Working pressure by rules 14.5 kg Steam dome: description of joint to shell Yes % 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 None 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

If not, state whether, and when, one will be sent?

Is a Report also sent on the Hull of the Ship?

W1386-0131

IS A DONKEY BOILER FITTED? *yes*

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

SPARE GEAR. State the articles supplied:—1 propeller shaft, 2 propeller blades, 1 slide valve rod, 1 pair of bottom and top end brasses, 2 connecting rod bolts, 4 crosshead bolts & nuts, 2 main bearing bolts, 2 sets of coupling bolts, 8 piston rings for HP, 6 ditto for M.P. & 6 ditto for LP cylinder, 10 junk ring bolts, 10 cylinder cover bolts, 4 valve chest cover bolts, 2 sets of link brasses, 1 set of feed pump valve, 1 air pump piston rod, 2 condenser tubes, 1 set of check valve, 1 set of safety valve springs, 1 dozen boiler tubes, 1 for circulating pump, 1 piston & piston rod, 1 slide valve rod, 2 connecting rod top & bottom brasses, 1 main bearing.
A quantity of assorted bolts & nuts. Iron of various sizes.

The foregoing is a correct description,

Hoops

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1923: Feb. 1, 12, 19, 25 March 6, 17, April 5, 17, 24 May 14, July 4, 14, 16, 18, 23, 25, Aug 13
During erection on board vessel -- Sept 8, 12, 29, Oct 8, 10, 11.
Total No. of visits 23
Is the approved plan of main boiler forwarded herewith *yes*
" " " donkey " " " *yes*
Dates of Examination of principal parts—Cylinders 1/2, 19/2 Slides 19/2 Covers 1/2 Pistons 19/2 Rods 19/2
Connecting rods 19/2 Crank shaft 17/3 Thrust shaft 17/3 Tunnel shafts 17/3 Screw shaft 17/3, 13/8 Propeller 5/4, 13/8
Stern tube 5/4, 13/8 Steam pipes tested 12/9 Engine and boiler seatings 5/4 Engines holding down bolts 5/4
Completion of pumping arrangements 8/10 Boilers fixed 12.9, 29/9. Engines tried under steam 11/10.
Completion of fitting sea connections 13/8 Stern tube 13/8 Screw shaft and propeller 13/8
Main boiler safety valves adjusted 9/10. Thickness of adjusting washers STAR 23 m/m PORT 22.5 " 23 m/m 19.5 " 17.5 m/m
Material of Crank shaft *Ingot steel* Identification Mark on Do. *G.L.* Material of Thrust shaft *Ingot steel* Identification Mark on Do. *G.L.*
Material of Tunnel shafts *Ingot steel* Identification Marks on Do. *G.L.* Material of Screw shafts *Ingot steel* Identification Marks on Do. *G.L.*
Material of Steam Pipes *Steel* Test pressure 50 kilograms
Is an installation fitted for burning oil fuel *no* 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 *S.S. "MORA" Num Rpt. No. 600*

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

Size of Donkey engines:—1 Feed pump (Wier) $150 \times 216 \frac{m}{m}$ 450 m/m, 1 ditto $200 \times 268 \frac{m}{m}$ 560 m/m, 1 $180 \times 180 \frac{m}{m}$ 250 m/m, 1 $100 \times 150 \frac{m}{m}$ 150 m/m, 1 $220 \times 280 \frac{m}{m}$ 350 m/m, 1 main circulating $200 \frac{m}{m}$ 180 m/m, 1 impeller 900 m/m dia.

These engines and boilers have been manufactured in accordance with the approved plans, the Secretary's letters and otherwise in conformity with the Rules.

The materials used in the construction and the workmanship are good.

They are eligible in my opinion to be classed in the Society's Register Book with the notation + L.M.C. 10, 23.

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

+ L.M.C. 10.23. F.D. O.G.

The amount of Entry Fee ... £ 5 : 0 :
Special ... £ 77 : 0 :
Donkey Boiler Fee ... £ 4 : 4 :
Travelling Expenses (if any) £ 1 : 0 :
When applied for, 15.10.23
When received, 10.11.23

Committee's Minute

Assigned

FRI. 2 NOV. 1923

+ L.M.C. 10.23

S.D.

Engineer Surveyor to Lloyd's Register of Shipping.



© 2021

Lloyd's Register Foundation