

## REPORT ON MACHINERY.

No. 17739

Received at London Office

WED. NOV. 17 1920

Date of writing Report 13/11/1920 When handed in at Local Office

13/11/1920 Port of Greenock

No. in Survey held at Port - Glasgow

Date, First Survey 1st Oct. 1919 Last Survey 12th Nov. 1920

Reg. Book.

(Number of Visits 40)

on the Steel Screw Steamship "ELLEN STUB"

Tons { Gross 2637.  
Net 1645.

Master C. J. Meyer Built at Port - Glasgow By whom built Ferguson Brothers (Port - Glasgow) Ltd. When built 1920

Engines made at Port - Glasgow By whom made Ferguson Brothers (Port - Glasgow) Ltd. when made 1920

Boilers made at 27 By whom made The Clyde Shipbuilding &amp; Engineering Co. when made 1920

Registered Horse Power 183 Owners K. J. A. H. W. Stub. Port belonging to Christiania

Nom. Horse Power as per Section 28 234 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

ENGINES, &amp;c.—Description of Engines Triple expansion, Surface Condensing No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 21" 34" x 57" Length of Stroke 36" Revs. per minute 83 Dia. of Screw shaft as per rule 11" 6 1/2" Material of screw shaft Steel

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

the 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

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

ners are fitted, is the shaft lapped or protected between the liners Length of stern bush 47"

Dia. of Tunnel shaft as per rule 10" 2 1/4" Dia. of Crank shaft journals as per rule 10" 7 1/4" Dia. of Crank pin 10 3/4" Size of Crank webs 20 1/2" x 6 3/4" Dia. of thrust shaft under

rollers 10 3/4" Dia. of screw 14" 6" Pitch of Screw 14" 6" No. of Blades 4 State whether moveable Solid Total surface 64 5/8 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 1/2" 3 1/2" Stroke 20" Can one be overhauled while the other is at work Yes.

No. of Bilge pumps 2 Diameter of ditto 3 1/2" 3 1/2" Stroke 20" Can one be overhauled while the other is at work Yes.

No. of Donkey Engines 3 Sizes of Pumps 6" x 4" 8" x 6" 8" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Two 3" and one 3" in tunnel. In Holds, &amp;c. Two 3" in Nos. 1 &amp; 2 holds, and one 3" in

after hold.

No. of Bilge Injections 1 sizes 5 1/2" Connected to condenser, or to circulating pump C. pump Is a separate Donkey Suction fitted in Engine room &amp; size Yes, 3 1/2"

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

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 engine top platform.

BOILERS, &amp;c.—(Letter for record 5.) Manufacturers of Steel D. Corville &amp; Sons Ltd.

Total Heating Surface of Boilers 3876 sq. ft. Is Forced Draft fitted No. No. and Description of Boilers Two, single ended.

Working Pressure 180 lbs. 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

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

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

Thickness 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

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

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

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

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

No. 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

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

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

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

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

thickness 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

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 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?

Yes.

If so, is a report now forwarded?

Yes.

SPARE GEAR.

State the articles supplied:—

Two top & two bottom end bolts and nuts. One pair bottom end bushes. Two main bearing bolts & nuts. One set shaft coupling bolts & nuts. One bed and one bridge pump suction & discharge valves. One set each air & circulating pump valves. Two main & two donkey feed check valves. One engine escape valve spring. Two main & one donkey safety valve springs. One propeller. One propeller shaft. 1/2 set fire bars for each boiler. One ahead eccentric rod. Assorted bolts & nuts, and a quantity of iron of various sizes.

The foregoing is a correct description,

FERGUSON BROTHERS (PORT-GLASGOW), LTD.

J. Ferguson

DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1919. Oct. 1. 6. 15. 31. Dec. 4. 16. 1920 Jan. 28. Feb. 3. 19. 26. Mar. 15. 17. 24. Apr. 7. 14. 28. May. 7. 18. 27. During erection on board vessel - - - June 8. 16. 18. 21. July 16. 20. 23. Aug. 5. 9. 23. Sept. 13. 22. 27. Oct. 5. 12. 15. 18. 22. 28. Nov. 3. 12. Total No. of visits 40.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 8/6/20. Slides 8/6/20. Covers 8/6/20. Pistons 5/8/20. Rods 14/4/20.

Connecting rods 14/4/20. Crank shaft 3/2/20. Thrust shaft 24/3/20. Tunnel shafts 28/4/20. Screw shaft 28/4/20. Propeller 5/8/20.

Stern tube 20/7/20. Steam pipes tested 15/10/20. Engine and boiler seatings 5/8/20. Engines holding down bolts 27/9/20.

Completion of pumping arrangements 3/11/20. Boilers fixed 28/10/20. Engines tried under steam 3/11/20.

Completion of fitting sea connections 5/8/20. Stern tube 5/8/20. Screw shaft and propeller 28/8/20.

Main boiler safety valves adjusted 3/11/20. Thickness of adjusting washers St. Alr 3/8", 5/8", St. Alr 3/2", 5/8".

Material of Crank shaft Steel Identification Mark on Do. 539. Material of Thrust shaft Steel Identification Mark on Do. 539.

Material of Tunnel shafts Steel Identification Marks on Do. 539. Material of Screw shafts Steel Identification Marks on Do. 539.

Material of Steam Pipes Solid drawn copper. Test pressure 400 lbs.

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 No. If so, state name of vessel —

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

The machinery of this vessel has been constructed under special survey and in accordance with the Society's rules and seen at work on trial in the Firth under full power. The machinery is in my opinion in safe working condition and eligible in my opinion to be classed \* L.M.C. 11.20. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 11.20

Recd. 19/11/20

MACHINERY CERT.

WRITTEN

17.11.20

The amount of Entry Fee ... £ 2 : 0 : When applied for, 13/11/1920.  
Special ... £ 31 : 14 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : : When received, 3.12.1920

Committee's Minute

Assigned + L.M.C. 11.20

Glasgow 16 NOV 1920

Graham Robertson

Engineer Surveyor to Lloyd's Register of Shipping.



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