

REPORT ON MACHINERY.

Nwc. No. 53990

Gls. No. 25970

Port of *Glasgow.*

WED. 18 DEC 1907

No. in Survey held at *Coatbridge N.B.*Date, first Survey *9th July*Received at London Office *12th Dec. 1907*
Last Survey *12th Nov* 1907

Reg. Book.

38 Supp. on the *Steel Screw Trawler "Ethel"*(Number of Visits *18*)Gross *278*Net *99*Master *Goole*Built at *Goole*By whom built *Goole Shipbuilding Co. (No. 1015)*When built *1907.*Engines made at *Coatbridge N.B.*By whom made *W. V. T. Ridgewood Esq. (No. 272)*when made *1907.*Boilers made at *Wallsend*By whom made *Wallsend Slipway Co. (No. 196)*when made *1907.*

Registered Horse Power

Owners *G. Cohen*Port belonging to *Flitwood*Nom. Horse Power as per Section 28 *75.33*Is Refrigerating Machinery fitted for cargo purposes *No*Is Electric Light fitted *No*ENGINES, &c.—Description of Engines *Triple Expansion*No. of Cylinders *3* No. of Cranks *3*Dia. of Cylinders *13-21-35"* Length of Stroke *25"* Revs. per minute *105* Dia. of Screw shaft *7.45"* Material of screw shaft *Iron*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 tightin 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *Yes* If twoliners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *2'-9"*Dia. of Tunnel shaft *as per rule. 7.45"* Dia. of Crank shaft journals *as per rule. 6.9"* Dia. of Crank pin *7.4"* Size of Crank webs *28 3/4" x 14 1/2"* Dia. of thrust shaft undercollars *7.4"* Dia. of screw *9'-0"* Pitch of Screw *11.6"* No. of Blades *4* State whether moveable *No* Total surface *32*No. of Feed pumps *2* Diameter of ditto *2 1/2"* Stroke *12"* Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2* Diameter of ditto *2 1/2"* Stroke *12"* Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *2* Sizes of Pumps *one 5 1/2" x 3 1/2" x 5"* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *Two 2" and 1" of 2"* In Holds, &c. *Two 2 1/2"**Ejector to all parts.*No. of Bilge Injections *1* sizes *3"* Connected to condenser, or to circulating pump *Pump* Is a separate Donkey Suction fitted in Engine room & size *Yes 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 valves & cocks.*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 *hold suction, return steam* How are they protected *wood casing*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*Dates of examination of completion of fitting of Sea Connections *19. 11. 07* of Stern Tube *20. 11. 07* Screw shaft and Propeller *20. 11. 07*Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*BOILERS, &c.—(Letter for record *Particulars of Boilers appended.*) Manufacturers of SteelTotal Heating Surface of Boilers *180 sq. ft.* Forced Draft fitted *Yes* No. and Description of Boilers *2*Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *31. 7. 07* No. of Certificate *75-44*Can each boiler be worked separately *Yes* Area of fire grate in each boiler *42 3/4 sq. ft.* No. and Description of Safety Valves toeach boiler *two direct spring* Area of each valve *4.9 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 *10"* Mean dia. of boilers *36"* Length *12'* Material of shell plates *Steel*Thickness *3/16"* Range of tensile strength *45,000 lbs* Are the shell plates welded or flanged *Yes* Descrip. of riveting: cir. seamslong. seams *Yes* Diameter of rivet holes in long. seams *1/4"* Pitch of rivets *4"* Lap of plates or width of butt straps *4"*Per centages of strength of longitudinal joint *85%* Working pressure of shell by rules *185 lbs* Size of manhole in shell *18"*Size of compensating ring *18"* No. and Description of Furnaces in each boiler *2* Material *Steel* Outside diameter *36"*Length of plain part *12'* Thickness of plates *3/16"* Description of longitudinal joint *Butt* No. of strengthening rings *2*Working pressure of furnace by the rules *185 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *3/16"* Back *3/16"* Top *3/16"* Bottom *3/16"*Pitch of stays to ditto: Sides *4"* Back *4"* Top *4"* If stays are fitted with nuts or riveted heads *Yes* Working pressure by rules *185 lbs*Material of stays *Steel* Diameter at smallest part *1/2"* Area supported by each stay *1 sq. ft.* Working pressure by rules *185 lbs* End plates in steam space:Material *Steel* Thickness *3/16"* Pitch of stays *4"* How are stays secured *By nuts* Working pressure by rules *185 lbs* Material of stays *Steel*Diameter at smallest part *1/2"* Area supported by each stay *1 sq. ft.* Working pressure by rules *185 lbs* Material of Front plates at bottom *Steel*Thickness *3/16"* Material of Lower back plate *Steel* Thickness *3/16"* Greatest pitch of stays *4"* Working pressure of plate by rules *185 lbs*Diameter of tubes *2"* Pitch of tubes *4"* Material of tube plates *Steel* Thickness: Front *3/16"* Back *3/16"* Mean pitch of stays *4"*Pitch across wide water spaces *4"* Working pressures by rules *185 lbs* Girders to Chamber tops: Material *Steel* Depth andthickness of girder at centre *1/2"* Length as per rule *12'* Distance apart *4'* Number and pitch of stays in each *2*Working pressure by rules *185 lbs* Superheater or Steam chest; how connected to boiler *By pipe* Can the superheater be shut off and the boiler workedseparately *Yes* Diameter *12"* Length *12'* Thickness of shell plates *3/16"* Material *Steel* Description of longitudinal joint *Butt* Diam. of rivetholes *1/4"* Pitch of rivets *4"* Working pressure of shell by rules *185 lbs* Diameter of flue *12"* Material of flue plates *Steel* Thickness *3/16"*If stiffened with rings *Yes* Distance between rings *4"* Working pressure by rules *185 lbs* End plates: Thickness *3/16"* How stayed *By stays*Working pressure of end plates *185 lbs* Area of safety valves to superheater *1 sq. ft.* Are they fitted with easing gear *Yes*

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety Valves _____

No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— 2 Connecting rod top end, + 2 bottom end bolts + nuts, 2 main bearing bolts + nuts, 1 set of coupling bolts + nuts, 1 set each of feed + bilge pump valves, a quantity of assorted bolts + nuts, + Iron of various sizes, + 1 set of piston springs.

The foregoing is a correct description,

For W.Y.V. Lister & Co. Manufacturers.

Dates of Survey while building { During progress of work in shops - 1907 July 9, 26 Aug 6, 8, 24, 26 Sep 5, 12, 25 Oct 17, 21, 31 November 12
During erection on board vessel - Nov 1907 Nov 12, 20, 27, 29 Dec 6
Total No. of visits 18

Is the approved plan of main boiler forwarded herewith yes
duplicate Boilers 7, 11, 12
donkey " " "

Dates of Examination of principal parts—Cylinders 21.10.07 Slides 31.10.07 Covers 31.10.07 Pistons 17.10.07 Rods 17.10.07
Connecting rods 12.9.07 Crank shaft 25.9.07 Thrust shaft 26.8.07 Tunnel shafts none Screw shaft 17.10.07 Propeller 5.9.07
Stern tube 5.9.07 Steam pipes tested 29.10.07 Engine and boiler seatings 20.11.07 Engines holding down bolts 28.10.07
Completion of pumping arrangements 6 Dec. 07 Boilers fixed 24.11.07 Engines tried under steam 6.12.07
Main boiler safety valves adjusted 6.12.07 Thickness of adjusting washers $PIR \frac{13}{32}$ $SVR \frac{3}{8}$
Material of Crank shaft Steel Identification Mark on Do. 272 Material of Thrust shaft Steel Identification Mark on Do. 272
Material of Tunnel shafts none Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 272
Material of Steam Pipes Copper Test pressure 360 lbs at Bilton Grabsco 7.12.07

General Remarks (State quality of workmanship, opinions as to class, &c. The Engines & Boilers of this vessel have been built under Special Survey, the workmanship + materials are of good quality, + we are of opinion, that, when they have been satisfactorily fitted on board + tried under steam, they will be eligible for the + L.M.C. notation (with date) 12.07.

The Engines + Boilers fitted on board tried under steam + found satisfactory.
Leonard G. Shallerons

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 12.07.

J.E.V. 18.12.07
18.12.07

The amount of Entry Fee £ { 3 : 15 :
Special £ { 7 : 10 :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : :
When applied for, 1.2.1908
When received, Dec 4, 1907 at Glasgow 12.1907

Committee's Minute

Glasgow 18 NOV 1907

Assigned Deferred for completion
for NWC

A.H. Pilditch
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

TUES. 7 JAN 1908

MACHINE WRITTEN

Lloyd's Register Foundation

Certificate (if required) to be sent to _____