

REPORT ON MACHINERY.

Port of *Leith*

Received at London Office

18

No. in Survey held at *Leith*Date, first Survey *8th Jan.*Last Survey *11th April* 1895

Reg. Book.

(Number of Visits *16*)on the *Screw Steamer "Copley"*(Yard No. *18*)Master *S. Wood*Built at *Anstruther*

By whom built

*William Jarvis*Tons { Gross *96.31*
Net *15.47*When built *1895*Engines made at *Leith*

By whom made

*John Bean & Co*when made *1895*Boilers made at *do*

By whom made

*do*when made *1895*Registered Horse Power *34*

Owners

Leith Steam Fishing Co (Lim)

Port belonging to

*Kirkcaldy*om. Horse Power as per Section 28 *27* ✓

GINES, &c.—

Description of Engines

*Compound*No. of Cylinders *2*Diameter of Cylinders *14" x 28"*Length of Stroke *20"*Revolutions per minute *110*

Diameter of Screw shaft

as per rule *5 1/4*

Diameter of Tunnel shaft

as per rule *5"*as fitted *5 1/4"*Diameter of Crank shaft journals *5 1/2"*Diameter of Crank pin *5 1/2"*Size of Crank webs *12 1/4" x 4 1/4"*Diameter of screw *7' 6"*Pitch of screw *9' 0"*No. of blades *4*State whether moveable *no*Total surface *15.2 f*No. of Feed pumps *1*Diameter of ditto *2 1/2"*Stroke *10"*

Can one be overhauled while the other is at work ✓

No. of Bilge pumps *1*Diameter of ditto *2 1/4"*Stroke *10"*

Can one be overhauled while the other is at work ✓

No. of Donkey Engines *one*Sizes of Pumps *6" x 3" x 8"*

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room *one 2" dial*In Holds, &c. *one to fore hold 2" dial*No. of bilge injections *1* sizes *2 1/2"*Connected to condenser, or to circulating pump *yes*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 *none*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 skin of the vessel *yes*Are the blow off cocks fitted with a spigot and brass covering plate *yes*Are all pipes 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*Were stern tube, propeller, screw shaft, and all connections examined in dry dock *new vessel*Is the screw shaft/tunnel watertight *none*

Is the fore hold fitted with a watertight door ✓

worked from ✓

BOILERS, &c.—

(Letter for record *S*)Total Heating Surface of Boilers *604 f*

No. and Description of Boilers

*one cylindrical single ended*Working Pressure *100 lbs*Tested by hydraulic pressure to *200 lbs*Date of test *28.3.95*

Can each boiler be worked separately ✓

Area of fire grate in each boiler *33 f*

No. and Description of safety valves to

boiler *2 Spring loaded*Area of each valve *4.9 sq"*Pressure to which they are adjusted *100 lbs*

Are they fitted

Casing gear *yes*Smallest distance between boilers or uptakes and bunkers or woodwork *12"*Mean diameter of boilers *9' 3 5/8"*Height *9' 0"*Material of shell plates *Steel*Thickness *5/8"*Description of riveting: circum. seams *Lap & R^d*long. seams *S.B.S. & R^d*Diameter of rivet holes in long. seams *7/8"*Pitch of rivets *4 1/2"*Lap of plates or width of butt straps *9 1/2"*

Percentages of strength of longitudinal joint

rivets *95*plate *80*Working pressure of shell by rules *113 lbs*Size of manhole in shell *16" x 12"*Diameter of compensating ring *7 x 5 1/8"*No. and Description of Furnaces in each boiler *2 plain*Material *Steel* Outside diameter *35 1/2"*

Height of plain part

top *1 1/2"*bottom *1 1/2"*

Thickness of plates

crown *1 1/2"*bottom *1 1/2"*Description of longitudinal joint *S.B.S. & R^d*

No. of strengthening rings ✓

Working pressure of furnace by the rules *101 lbs*Combustion chamber plates: Material *Steel*Thickness: Sides *1 1/2"*Back *7/16"*Top *1 1/2"*Bottom *1 1/2"*Diameter of stays to ditto: Sides *7 1/2"*Back *6 3/4"*Top *10 3/4"*If stays are fitted with nuts or riveted heads *nuts*Working pressure by rules *100 lbs*Material of stays *Steel*Diameter at smallest part *1.23"*Area supported by each stay *90 sq"*Working pressure by rules *108 lbs*

End plates in steam space:

Material *Steel*Thickness *1 1/2"*Pitch of stays *18"*How are stays secured *S.N. & Stays*Working pressure by rules *139 lbs*Material of stays *Steel*Diameter at smallest part *4.46"*Area supported by each stay *324 sq"*Working pressure by rules *123 lbs*Material of Front plates at bottom *Steel*Thickness *5/8"*Material of Lower back plate *Steel*Thickness *5/8"*Greatest pitch of stays *11 1/4"*Working pressure of plate by rules *107 lbs*Diameter of tubes *3 1/2"*Pitch of tubes *4 3/4" x 4 5/8"*Material of tube plates *Steel*Thickness: Front *5/8"*Back *1 1/16"*Mean pitch of stays *11 7/8"*Pitch across wide water spaces *13"*Working pressures by rules *173 lbs*Girders to Chamber tops: Material *Steel*

Depth and

Distance apart *10 3/4"*Working pressure by rules *120 lbs*Superheater or Steam chest; how connected to boiler *none*

Can the superheater be shut off and the boiler worked

Diameter ✓

Length ✓

Thickness of shell plates ✓

Material ✓

Description of longitudinal joint ✓

Diam. of rivet ✓

Pitch of rivets ✓

Working pressure of shell by rules ✓

Diameter of flue ✓

Material of flue plates ✓

Thickness ✓

Fitted with rings ✓

Distance between rings ✓

Working pressure by rules ✓

End plates: Thickness ✓

How stayed ✓

Working pressure of end plates ✓

Area of safety valves to superheater ✓

Are they fitted with casing gear ✓

Working pressure of end plates ✓

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Area of safety valves to superheater ✓

Are they fitted with casing gear ✓

DONKEY BOILER— Description *None*

Made at ☒ By whom made ☒ When made ☒ Where fixed ☒
 Working pressure ☒ tested by hydraulic pressure to ☒ No. of Certificate ☒ Fire grate area ☒ Description of safety valves ☒
 No. of safety valves ☒ Area of each ☒ Pressure to which they are adjusted ☒ If fitted with easing gear ☒ If steam from main boilers can enter the donkey boiler ☒
 Diameter of donkey boiler ☒ Length ☒ Material of shell plates ☒ Thickness ☒
 Description of riveting long seams ☒ Diameter of rivet holes ☒ Whether punched or drilled ☒ Pitch of rivets ☒
 Lap of plating ☒ Per centage of strength of joint ☒ Rivets ☒ 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 ☒
 Thickness of furnace crown plates ☒ Stayed by ☒ Working pressure of shell by rules ☒
 Working pressure of furnace by rules ☒ Diameter of uptake ☒ Thickness of uptake plates ☒ Thickness of water tubes ☒

SPARE GEAR. State the articles supplied:— *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed & bilge pump valves, & a quantity of assorted nuts & washers of various sizes.*

The foregoing is a correct description,

Manufacturer.

John Lewis & Co

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been constructed under special survey, the materials & workmanship are found to be good. The engines have been tried under steam, and the boiler safety valves adjusted under steam at the working pressure. The machinery is now in good & safe working condition, & eligible in my opinion to have the notation of + LMC 4,95 in the Register Book. The approved boiler tracing is forwarded herewith.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 4-95

W.A.
1.5.95

Certificate (if required) to be sent to *Leith Office*

The amount of Entry Fee..	£ 1	:-	+	When applied for,
Special	£ 8	:-	-	<i>29th April 95</i>
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any) £	<i>14-4</i>			<i>3.5.95</i>

Thomas Field.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI 3 MAY 1895

Assigned

+ L.M.C. 4.95



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