

REPORT ON MACHINERY.

THURS. 2 MAR 1893

Port of *Leith*

Received at London Office

No. in Survey held at *Leith* Date, first Survey *5th November* Last Survey *28th Feb.* 18*93*

Reg. Book. (Number of Visits *21*)

bin kept on the *wood & s. Fishing vessel "William Tennant"* Tons { Gross *93.45* Net *20.83*

Master *J. Smith* Built at *Austruther* By whom built *W. Jarvis* When built *1893*

Engines made at *Leith* By whom made *John Crau & Co.* when made *1893*

Boilers made at *do.* By whom made *do.* when made *1893*

Registered Horse Power *34* Owners *Austruther Steam Line Fishing Co* Port belonging to *Hirkaldy*

Nom. Horse Power as per Section 28

ENGINES, &c.— Description of Engines *Compound surface condensing.* No. of Cylinders *two*

Diameter of Cylinders *14" x 28"* Length of Stroke *20"* Revolutions per minute *110* Diameter of Screw shaft *as per rule 5.2*

Diameter of Tunnel shaft *as fitted 5 1/4* Diameter of Crank shaft journals *5 1/2* Diameter of Crank pin *5 1/2* Size of Crank webs *built*

Diameter of screw *7-6"* Pitch of screw *9-0"* No. of blades *4* State whether moveable *no* Total surface *15.2*

No. of Feed pumps *one* Diameter of ditto *2 1/4* Stroke *10"* Can *one* be overhauled while the other is at work *yes*

No. of Bilge pumps *one* Diameter of ditto *2 1/4* Stroke *10"* Can *one* be overhauled while the other is at work *yes*

No. of Donkey Engines *one* Sizes of Pumps *6" cyl. 8" stroke, 3" pump* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *2 x 2' dia.* In Holds, &c. *one x 2' dia.*

No. of bilge injections *one* size *2 1/2* Connected to condenser, or to circulating pump *CR* Is a separate donkey suction fitted in Engine room & size *yes 2' dia*

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 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*

When were stern tube, propeller, screw shaft, and all connections examined in dry dock *while building* Is the screw shaft tunnel watertight *none*

Is it fitted with a watertight door *-* worked from *-*

BOILERS, &c.— (Letter for record *S.*) Total Heating Surface of Boilers *604 sq ft*

No. and Description of Boilers *one. Cyl. (mult.)* Working Pressure *100* Tested by hydraulic pressure to *200*

Date of test *12.1.93* Can each boiler be worked separately *-* Area of fire grate in each boiler *33 sq ft* No. and Description of safety valves to each boiler *two, direct spring.* Area of each valve *4.9* Pressure to which they are adjusted *105 lbs* Are they fitted with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *8"* Mean diameter of boilers *9-3"*

Length *9-0"* Material of shell plates *steel* Thickness *5/8* Description of riveting: circum. seams *L.D.R.* long. seams *D.B.S., D.R.*

Diameter of rivet holes in long. seams *7/8* Pitch of rivets *4 1/2 x 2 1/4* Lap of plates or width of butt straps *9 1/4*

Per centages of strength of longitudinal joint *93.7%* Working pressure of shell by rules *113* Size of manhole in shell *16" x 13"*

Size of compensating ring *4" x 5/8* No. and Description of Furnaces in each boiler *two plain.* Material *steel* Outside diameter *2' 11 1/2"*

Length of plain part *top 6-3" bottom 6-3"* Thickness of plates *top 5/8 bottom 5/8* Description of longitudinal joint *D.B.S., S.R.* No. of strengthening rings *none*

Working pressure of furnace by the rules *111* Combustion chamber plates: Material *steel* Thickness: Sides *15/32* Back *7/16* Top *9/32* Bottom *15/32*

Pitch of stays to ditto: Sides *7 1/2* Back *6 3/4* Top *0 3/4 x 7* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *100*

Material of stays *steel* Diameter at smallest part *1 1/32* Area supported by each stay *45.5* Working pressure by rules *120* End plates in steam space:

Material *steel* Thickness *15/16* Pitch of stays *20" x 18"* How are stays secured *DN. IR. slip* Working pressure by rules *123* Material of stays *steel*

Diameter at smallest part *2 3/8* Area supported by each stay *360* Working pressure by rules *110* 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 *100*

Diameter of tubes *3 1/2* Pitch of tubes *4 3/4 x 4 3/8* Material of tube plates *steel* Thickness: Front *5/8* Back *7/16* Mean pitch of stays *14 1/4*

Pitch across wide water spaces *13"* Working pressures by rules *100* Girders to Chamber tops: Material *steel* Depth and thickness of girder at centre *5 5/8 x 1 1/4* Length as per rule *1-8 1/2* Distance apart *10 3/4* Number and pitch of Stays in each *2 x 7"*

Working pressure by rules *120* Superheater or Steam chest; how connected to boiler *none* Can the superheater be shut off and the boiler worked separately *-*

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened 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 easing gear

DONKEY BOILER— Description

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:— *As required by Rule.*

The foregoing is a correct description,
John Grant & Co. Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *Workmanship & materials good.*)
The machinery of this vessel has been built under special survey, fitted on board, tried under steam, & is now in safe working order & eligible in our opinion to be classed & to have record of +LMC 2,93 in the Register Book.

It is submitted that
 this vessel is eligible for
 THE RECORD. *+LMC 2,93*

J. L. M. 2/3/93

[Large handwritten signature]

Certificate (if required) to be sent to *Leith Office*
 The amount of Entry Fee... £ 1 : - : - } When applied for,
 Special £ 8 : - : - } *1st March 93*
 Donkey Boiler Fee £ - : - : - }
 Travelling Expenses (if any) £ - : 17 : - } *3/3/93*

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

Committee's Minute **FRI 3 MAR 1893**
 Assigned *+LMC 2,93*



(The Surveyors are requested not to write on or below the space for Committee's Minute.)