

REPORT ON MACHINERY.

Port of *Aberdeen*

Received at London Office 18

No. in Survey held at *Aberdeen* Date, first Survey *Feb. 20th* Last Survey *October 19th 1893*
 Reg. Book. *"Pioneer"* (Number of Visits *49*)
 on the *Wood Steam Line Fishing Vessel* Tons { Gross *95.35*
 Net *14.68*
 Master *W. Ritchie* Built at *Peterhead* By whom built *Messrs. Forbes & Burnie* When built *1893*
 Engines made at *Aberdeen* By whom made *Messrs. Hall Russell & Co* when made *1893*
 Boilers made at *Aberdeen* By whom made *Messrs. Hall Russell & Co* when made *1893*
 Registered Horse Power *32* Owners *Peterhead Steam Line Fishing Co. Ltd.* Port belonging to *Peterhead*
 Nom. Horse Power as per Section 28

ENGINES, &c. — Description of Engines *Compound Inverted direct acting* No. of Cylinders *two*
 Diameter of Cylinders *13" & 28"* Length of Stroke *18"* Revolutions per minute *110* Diameter of Screw shaft *as per rule 4.86*
as fitted 5.5"
 Diameter of Tunnel shaft *as per rule 4.61* Diameter of Crank shaft journals *5.5"* Diameter of Crank pin *5.5"* Size of Crank webs *4" x 6.5"*
as fitted 5.5"
 Diameter of screw *6" 8"* Pitch of screw *9.6"* No. of blades *4* State whether moveable *No* Total surface *22 sq ft*
 No. of Feed pumps *One* Diameter of ditto *2.75"* Stroke *11"* Can one be overhauled while the other is at work
 No. of Bilge pumps *One* Diameter of ditto *2.75"* Stroke *11"* Can one be overhauled while the other is at work
 No. of Donkey Engines *One* Sizes of Pumps *3" cyl 5" Stroke 6"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *Two, 2" dia* In Holds, &c. *One 2" dia*
 No. of bilge injections *One* sizes *3"* Connected to condenser, or to circulating pump *air p.* 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
 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 *Forward suction* How are they protected *strong 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*
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *before launching* Is the screw shaft tunnel watertight *No tunnel*
 Is it fitted with a watertight door worked from

BOILERS, &c. — (Letter for record *S*) Total Heating Surface of Boilers *649 sq ft*
 No. and Description of Boilers *One cylindrical multitubular* Working Pressure *100 lbs* Tested by hydraulic pressure to *200 lbs*
 Date of test *4, 4, 93* Can each boiler be worked separately Area of fire grate in each boiler *24.45 sq ft* No. and Description of safety valves to
 each boiler *two direct spring* Area of each valve *5.939 sq"* Pressure to which they are adjusted *100 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 *8.9* Material of shell plates *Steel* Thickness *5/8"* Description of riveting: circum. seams *D. riv lap* long. seams *D. riv butt*
 Diameter of rivet holes in long. seams *15/16"* Pitch of rivets *3 3/4"* Lap of plates or width of butt straps *9 1/2" x 9"*
 Per centages of strength of longitudinal joint rivets *84%* Working pressure of shell by rules *108 lbs* Size of manhole in shell *12 x 16*
 plate *75%*
 Size of compensating ring *5/8" D. riv* No. and Description of Furnaces in each boiler *two plain* Material *Steel* Outside diameter *34"*
 Length of plain part top *6.3"* Thickness of plates crown *1/2"* Description of longitudinal joint *D. riv butt* No. of strengthening rings *one 15 x 15*
 bottom *8.3"* bottom *1/2"*
 Working pressure of furnace by the rules *105 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *15/32"* Back *15/32"* Top *15/32"* Bottom *1/2"*
 Pitch of stays to ditto: Sides *7/2" x 7/2"* Back *7/2" x 7/4"* Top *radial* stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *112 lbs*
 Material of stays *Steel* Diameter at smallest part *1 1/4" 1/8" new* Area supported by each stay *54.34 sq"* Working pressure by rules *134 lbs* End plates in steam space:
 Material *Steel* Thickness *3/4"* Pitch of stays *1 1/2" x 1 1/2"* How are stays secured *D. nuts & washers* Working pressure by rules *126 lbs* Material of stays *Steel*
 Diameter at smallest part *2 3/4" new* Area supported by each stay *210.25 sq"* Working pressure by rules *110 lbs* Material of Front plates at bottom *Steel*
 Thickness *5/8"* Material of Lower back plate *Steel* Thickness *5/8"* Greatest pitch of stays *7/2" x 10"* Working pressure of plate by rules *135 lbs*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2" x 4 1/2"* Material of tube plates *Steel* Thickness: Front *3/4"* Back *5/8"* Mean pitch of stays *9" x 9"*
 Pitch across wide water spaces *1 1/2"* Working pressures by rules *102 lbs* 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 Superheater or Steam chest; how connected to boiler 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

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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 _____ Materials 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 plate _____ 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:— *2 con. rod top end bolts & nuts. 2 bottom end ditto. 2 main bearing bolts, 1 set of coupling bolts. 1 set of feed and bilge pump valves. assorted bolts and nuts, and iron of various sizes*

The foregoing is a correct description,

Gall Russell & Co Manufacturers

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

The Engines and Boiler of this vessel, have been constructed under Special Survey, in accordance with the Rules, and the approved tracing. They are of good material, and workmanship, and eligible in my opinion, to receive the notification of L M C 10, 93. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 10 93 -

JMB
23/10/93 -

MACHINERY CERTIFICATE WRITTEN.

Certificate (if required) to be sent to *Aberdeen*

The amount of Entry Fee..	£ 1	: -	:-	When applied for,
Special	£ 8	:	:	<i>Oct 20 1893.</i>
Donkey Boiler Fee	£	✓	:	When received,
Travelling Expenses (if any)	£ 1	: 8	4	<i>Oct 21 1893.</i>

G. L. Hindmarsh
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUES. 24 OCT 1893**
Assigned *+ L M C 10 93*



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The Surveyors are requested not to write on or before the space for Committee's Minutes.