

REPORT ON MACHINERY.

5309

Port of Dundee Received at THURS. 2 APR 1891
 Date, first Survey 1st October 1890 Last Survey 20th March 1891
 Survey held at Dundee (Number of Visits 20) Tons 1095
 Name of vessel Iron S.S. "Osprey" Built at Aberdeen By whom built M. Farce & Co. When built 1877
 at Dundee By whom made Gourlay Bros & Co. when made 1891
 at " By whom made " when made 1891
 Horse Power 294 Owners General Steam Navigation Co. Port belonging to London

&c.— Engines Triple expansion Surface Condensing
 Cylinders 25" x 40" x 65" Length of Stroke 45" No. of Rev. per minute 82 Point of Cut off, High Pressure 67 Low Pressure 62
 Screw shaft 12 1/2" Diam. of Tunnel shaft 12" Diam. of Crank shaft journals 12 1/2" Diam. of Crank pin 12 1/2" size of Crank webs 8 1/2" x 21"
 Screw 14' 3" Pitch of screw 19" - 0" No. of blades Four state whether moveable No total surface 64 1/2 sq ft
 Pumps Two diameter of ditto 3 1/4" Stroke 28" Can one be overhauled while the other is at work Yes
 Pumps Two diameter of ditto 3 1/4" Stroke 28" Can one be overhauled while the other is at work Yes
 Pump from all holds, all bilges, from sea, overboard and on deck.
 Engines Two Size of Pumps 8 x 8 x 6 1/2" and 7 x 9 x 18" Where do they pump from all holds, tanks, hotwell
from sea through condenser and overboard.
 Suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
 Injections One and sizes 4" Are they connected to condenser, or to circulating pump Circulating pump.
 Pumps worked from low pressure lever.
 Connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
 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
 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
 Are carried through the bunkers None How are they protected ✓
 cocks, valves, and pumps in connection with the machinery accessible at all times Yes
 cocks, and valves arranged so as to prevent an unintentional connection between the sea, and the bilges Yes
 Stern tube, propeller, screw shaft, and all connections examined in dry dock 9th January 1891.
 Shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Deck

&c.— Boilers Two Description Circular Tubular Whether Steel or Iron Steel, equipment letter S.
 Pressure 160 lb Tested by hydraulic pressure to 320 lb Date of test 17/1/91
 superheating apparatus or steam chest ✓
 Can be worked separately Yes Can the superheater be shut off and the boiler worked separately ✓
 Feet of fire grate surface in each boiler 79 sq ft Description of safety valves Springs No. to each boiler Two
 valve 9" 02 rpm Are they fitted with easing gear Yes No. of safety valves to superheater ✓ area of each valve ✓
 with easing gear ✓ Smallest distance between boilers and bunkers 4" Diameter of boilers 12' 0"
 Rivets 16' 0" description of riveting of shell long. seams Double strap circum. seams Double & triple riv. lap Thickness of shell plates 1 1/16"
 rivet holes 1 1/8" whether punched or drilled Drilled pitch of rivets 7 1/2" Lap of plating 17 1/8"
 strength of longitudinal joint 85 x 89 working pressure of shell by rules 163 lb size of manholes in shell 17" x 13"
 Sensating rings 4" x 4" x 3/4" No. of Furnaces in each boiler Four
 Water 3' 5" length, top 6' 3/8" bottom 6' 3/8" thickness of plates 1/2" description of joint Welded, Turvis' patents are fitted Yes
 between rings 9" working pressure of furnace by the rules 160 lb combustion chamber plating, thickness, sides 5/8" back ✓ top 5/8"
 to ditto, sides 8 1/2" x 8 1/2" back ✓ top 8 1/2" x 8 1/2" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by
6 lb Diameter of stays at smallest part 1 3/8" dia working pressure of ditto by rules 164 lb end plates in steam space, thickness 15/16 Doubled
 to ditto 18" x 18 5/16" how stays are secured Double nuts working pressure by rules 188 lb diameter of stays at
 part 2 5/8" working pressure by rules 168 lb Front plates at bottom, thickness 1 1/16 Back plates, thickness ✓
 of stays ✓ working pressure by rules ✓ Diameter of tubes 3 1/4" pitch of tubes 4 5/8" x 4 5/8" thickness of tube
 front 3/4" back 7/8" how stayed Stay tubes pitch of stays 9 1/4" x 9 1/4" width of water spaces 6" diam. of rivet holes ✓
 Superheater or Steam chest ✓ length ✓ thickness of plates ✓ description of longitudinal joint ✓ If stiffened with rings ✓
 Is ✓ working pressure of shell by rules ✓ diameter of flue ✓ thickness of plates ✓ how stayed ✓
 between rings ✓ working pressure by rules ✓ end plates of superheater, or steam chest; thickness ✓ how stayed ✓
 Superheater or steam chest; how connected to boiler ✓

DONKEY BOILER—

Description

Vertical

Made at *Dundee* by whom made *Gourlay Bros & Co* when made *1891* where fixed *Stonehouse*
 Working pressure *80 lb* tested by hydraulic pressure to *100 lb* No. of Certificate *587* fire grate area *19' 6" sq ft* description
 valves *Springs* No. of safety valves *Two* area of each *4' 4 1/2" sq ft* fitted with easing gear *Yes* if steam from main
 enter the donkey boiler *No* diameter of donkey boiler *6' 0"* length *11' 6"* description of riveting *Double riv.*
 Thickness of shell plates *13/32"* diameter of rivet holes *23/32"* whether punched or drilled *Drilled* pitch of rivets *2 3/8"* lap of plating
 per centage of strength of joint *71 1/2 %* thickness of crown plates *3/4"* stayed by *scam* *1 15/16"* solid stays
 Diameter of furnace, top *4' 6"* bottom *5' 2 1/4"* length of furnace *6' 6"* thickness of plates *19/32"* description of joint *Single riv.*
 Thickness of furnace crown plates *5/8"* stayed by *scam* *1 15/16"* solid stays
 Working pressure of furnace by rules *84 lb* diameter of uptake *15"* thickness of plates *3/8"* thickness of water tubes

SPARE GEAR. State the articles supplied:—*Propellershaft & propeller, 1 pair of manibraces—12 ft*
1 air pump bucket & valve, 1 eccentric strap, 1 set of coupling bolts, 1 " " top end bracer—1 ft
1 " " head valve, seat & guard, 2 manibracing bolts & nuts, 1 " " bottom " " 2 spacers
2 bottom end bolts & nuts, 25 boiler tubes, 2 top end connecting rod bolts, 1 " " eccentric bracer, 1 "
 The foregoing is a correct description, 50 underwritten & 1 span of various bolts.
Gourlay Brothers & Co Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this*
has been built under special survey in accordance with
approved plans, sent herewith. The steel plates used
in the construction of the boiler have been tested at
steelworks by one of the Society Surveyors and
certificates of tests are annexed. The safety valves
have been blowing off at the working pressure.
The materials and workmanship are good
The machinery is in good condition and safe
working order and this vessel is in my opinion
eligible to remain as classed with the Notice
** L.M.C. 3. 91 * N.B. 3. 91 in the Registerbook.*

$$\frac{1}{2} \left\{ \frac{65^2 \times \sqrt{45}}{100} + \frac{4588}{15} \right\} = 294 \text{ HP}$$

Be submitted that
the amount of the fee
+ N.B. 91 + L.M.C. 3. 91
2. 4. 91
should be + N. 2 and B. 91
3. 4. 91
C. 91

The amount of Entry Fee .. £ 2 : - : received by me,
 Special £ 34 : 14 :
 Donkey Boiler Fee £ : :
 Certificate (if required) .. £ : : 31st March 1891
 (To be sent as per margin.)
 (Travelling Expenses, if any, £)

Committee's Minute *Fri. 3 APR 1891* *TUES. 16 DEC 1891* *TUES. 2 FEB 1892*
+ L.M.C. 3. 91 + N.B. 3. 91
 Engineer Surveyor to Lloyd's Register of British & Foreign Vessels
A. R. Keydell

