

REPORT ON MACHINERY.

5309

Survey held at Dundee Port of Dundee Received at THURS. 2 APR 1891
 Date, first Survey 9th October 1890 Last Survey 26th March 1891
 (Number of Visits 26) Tons 1095
 Built at Stockton By whom built M. Parce & 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.— Triple expansion Surface Condensing
 Engines 25" 40" 65" Length of Stroke 45 No. of Rev. per minute 82 Point of Cut off, High Pressure 67 Low Pressure 62
 cylinders 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 Yes
 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.— 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 Yes
 be worked separately Yes Can the superheater be shut off and the boiler worked separately Yes
 feet of fire grate surface in each boiler 79.9 sq ft Description of safety valves Springs No. to each boiler Two
 valve 9" 02 sq in Are they fitted with easing gear Yes No. of safety valves to superheater 4 area of each valve 12' 0"
 with easing gear Yes Smallest distance between boilers and bunkers 4" Diameter of boilers 12' 0"
 rivet holes 1 1/8" description of riveting of shell long. seams Double straps circum. seams Double & triple riv. lap Thickness of shell plates 1 1/16"
 strength of longitudinal joint 85 x 89 working pressure of shell by rules 163 lb size of manholes in shell 17" x 13"
 compensating 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, Turais' patterns are fitted Yes
 between rings 9" working pressure of furnace by the rules 160 lb combustion chamber plating, thickness, sides 5/8" back 5/8" top 5/8"
 to ditto, sides 8 1/2" x 8 1/2" back Yes top 8 1/2" x 8 1/2" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by
 Diameter of stays at smallest part 1 1/8" dia working pressure of ditto by rules 164 lb end plates in steam space, thickness 15/16 Doubled
 to ditto 18" x 18 5/8" 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 1 1/16"
 of stays 3/4" working pressure by rules 168 lb Diameter of tubes 3 1/4" pitch of tubes 4 5/8" x 4 5/8" thickness of tube
 nt 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 1 1/8"
 Superheater or Steam chest Yes length 10' 0" thickness of plates 1 1/16" description of longitudinal joint Yes If stiffened with rings Yes
 working pressure of shell by rules 168 lb diameter of flue 10' 0" thickness of plates 1 1/16" how stayed Yes
 between rings Yes working pressure by rules 168 lb end plates of superheater, or steam chest; thickness 15/16 Doubled
 Superheater or steam chest; how connected to boiler Yes

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 160 lb

No. of Certificate 587

fire grate area 19.6 sq ft

description

valves Springs

No. of safety valves 100

area of each 4.43 sq ft

fitted with easing gear

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 screw

1 1/16" 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 screw

1 1/16" solid stays

Working pressure of furnace by rules 84 lb

diameter of uptake 15"

thickness of plates 3/8"

working pressure of shell by rules

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 rods, 1
1 " head valve, seat & guard, 2 manibracing bolts & nuts, 1 " " bottom " " 2 sp
2 bottom end bolts & nuts, 25 bailer tubes, 2 top end connecting rod bolts, 1 " " eccentric braces, 1
The foregoing is a correct description, 50 eccentric tubes & 1 set of manibraces.

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 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

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

The amount of Entry Fee .. £ 2 : - :

received by me,

Special .. £ 34 : 14 :

Donkey Boiler Fee .. £ :

Certificate (if required) .. £ :

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

Engineer Surveyor to Lloyd's Register of British & Foreign

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