

REPORT ON MACHINERY.

4199

No. 200

(Received at London Office 22/9/82)

No. in Survey held at Dundee
Reg. Book.

Date, first Survey 25/3/82

Last Survey 28 Nov 1882

on the S. S. "Cormorant"

Tons

Master W. H. [unclear] Built at Deptford When built 1882

Engines made at Dundee By whom made Lourlay Bros. Co. when made 1882

Boilers made at Do By whom made Do Do when made 1882

Registered Horse Power 100 Owners General Steam Nav Co Port belonging to London

ENGINES, &c.—

Description of Engines Compound direct acting 2nd class surface condensing

Diameter of Cylinders 27" & 48" Length of Stroke 30" No. of Rev. per minute 75 Point of Cut off, High Pressure 2/6 Low Pressure 2/6

Diameter of Screw shaft 8 3/4" Diameter of Tunnel shaft 8 1/2" Diameter of Crank shaft journals 9" Diameter of Crank pin 9" size of Crank webs 10 1/2" x 6"

Diameter of screw 13" 0" Pitch of screw 13" 3" No. of blades 4 state whether moveable sol total surface 41 feet

No. of Feed pumps two diameter of ditto 3 1/2" Stroke 17" Can one be overhauled while the other is at work yes

No. of Bilge pumps two diameter of ditto 3 1/2" Stroke 17" Can one be overhauled while the other is at work yes

Where do they pump from all compartments

No. of Donkey Engines one Size of Pumps 5" x 5" x 3" Where do they pump from sea Hot Wells - 65 boiler

and on Deck

Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes Are the sluices on Engine room bulkheads always accessible yes

No. of bilge injections one and sizes 4" Are they connected to condenser, or to circulating pump Circulating

How are the pumps worked by levers from low pressure piston crosshead

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 accessible at all times yes

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

Is the screw shaft tunnel watertight apparently and fitted with a sluice door yes worked from upper platform

BOILERS, &c.—

Number of Boilers one Description Steel Circular Tubular

Working Pressure 75 lbs Tested by hydraulic pressure to 150 lbs Date of test 11th August 1882

Description of ~~superheating apparatus~~ steam chest horizontal dome

Can each boiler be worked separately — Can the superheater be shut off and the boiler worked separately —

No. of square feet of fire grate surface in each boiler 51.75 feet Description of safety valves direct Spring load (Cochburn)

No. to each boiler two area of each valve 13.3" Are they fitted with casing gear yes

No. of safety valves to superheater — area of each valve — are they fitted with casing gear —

Smallest distance between boilers and bunkers or woodwork 12"

Diameter of boilers 13" 0" Length of boilers 10" 0" description of riveting of shell long. seams Lap double R circum. seams Lap D.P.

Thickness of shell plates 2 3/32" diameter of rivet holes 1 7/16" whether punched or drilled drilled pitch of rivets 4"

Lap of plating 7 1/2" & 5" per centage of strength of longitudinal joint 74% working pressure of shell by rules 78 lbs

Size of manholes in shell 17" x 13" size of compensating rings 4" x 4" x 3/4"

No. of Furnaces in each boiler three outside diameter 35 1/2" mean length, top 7' 3" bottom 7' 3"

Thickness of plates 7/16" description of joint welded if rings are fitted flanged in centre greatest length between rings 5' 4"

Working pressure of furnace by the rules 138 lbs half length

Combustion chamber plating, thickness, sides 7/16" back 7/16" top 7/16"

Pitch of stays to ditto sides 8 1/2" x 8 1/2" back 8 1/2" x 8 1/2" top round

If stays are fitted with nuts or riveted heads nuts both ends working pressure of plating by rules 75 lbs

Diameter of stays at smallest part sides 1 3/4" rest 1 3/2" working pressure of ditto by rules 46.93 lbs

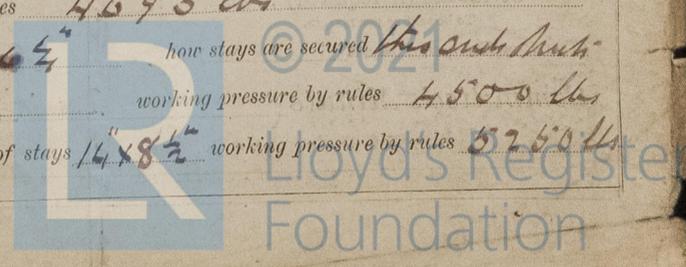
End plates in steam space, thickness 2 5/32" pitch of stays to ditto 16 1/2" x 16 1/2" how stays are secured two ends nuts

Working pressure by rules 82 lbs diameter of stays at smallest part 2 3/8" working pressure by rules 4500 lbs

Front plates at bottom, thickness 9/16" Back plates, thickness 9/16" greatest pitch of stays 14" x 8 1/2" working pressure by rules 52.50 lbs

Form No. 8

LON 669-0326



41997 Lon

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4}$ " thickness of tube plates, front $\frac{4}{16}$ " back $\frac{4}{16}$ "
 How stayed *like main* pitch of stays $14\frac{1}{2} \times 14\frac{1}{2}$ " width of water spaces $1\frac{1}{2}$ "
 Diameter of ~~Superheater~~ Steam chest $3\frac{1}{2}$ " length $8\frac{1}{2}$ "
 Thickness of plates $7\frac{1}{16}$ " description of longitudinal joint *Lap S.R.* diameter of rivet holes $3\frac{1}{8}$ " pitch of rivets $2\frac{1}{2}$ "
 Working pressure of shell by rules $133\frac{1}{2}$ Diameter of flue \leftarrow thickness of plates \leftarrow
 If stiffened with rings \leftarrow distance between rings \leftarrow Working pressure by rules \leftarrow
 End plates of ~~superheater~~ steam chest; thickness $5\frac{1}{8}$ " How stayed *by L = 14\frac{1}{2}" both stays the ends are*
~~Superheater~~ steam chest; how connected to boiler *by two malleable necks riveted to shells*

DONKEY BOILER— Description *Vertical with cross tubes.*
 Made at *Clark C. & G.* By whom made *Galeshead* when made *1882*
 Where fixed *Over Stoked* working pressure *80 lbs* Tested by hydraulic pressure to *160* No. of Certificate *979*
 Fire grate area *12.56* Description of safety valves *Spring* No. of safety valves *one* area of each *7 inches*
 If fitted with casing gear *yes* If steam from main boilers can enter the donkey boiler *no*
 Diameter of donkey boiler $4\frac{1}{2}$ " length $10' 6"$ description of riveting *d. riv. lap.*
 thickness of shell plates $7\frac{1}{16}$ " diameter of rivet holes $13\frac{1}{16}$ " whether punched or drilled *punched*
 pitch of rivets $3\frac{1}{8}$ " lap of plating $4"$ per centage of strength of joint 74
 thickness of crown plates $1\frac{1}{2}$ " stayed by *4 Stays 1\frac{5}{8}" diam.*
 Diameter of furnace, top 3.5 bottom 4.1 length of furnace 4.7
 thickness of plates $1\frac{1}{2}$ description of joint *lap single rivet*
 thickness of furnace crown plates $1\frac{1}{2}$ " stayed by *uptake & Stays*
 Working pressure of shell by rules $88\frac{1}{2}$ lbs working pressure of furnace by rules $82\frac{1}{2}$ lbs
 diameter of uptake $12"$ thickness of plates $3\frac{1}{8}$ thickness of water tubes $3\frac{1}{8}$

The foregoing is a correct description.

Overlays Brothers Manufacturer. of main engines & boiler.

General Remarks (State quality of workmanship, opinions as to class, &c. *The Boilers and Engines*)
 of this vessel have been ^{built} under special survey. The material and workmanship are of the best description and in our opinion are eligible to be entered into the Register Books with the distinctive mark —
 * Z.M.C. 11.82. in red.
 The machinery has been securely fitted on board.

[Large blue scribble]

It is submitted that this vessel is eligible to be entered in the Register Book.
 M.C. 11.82
 M.P. 4.12.82

The amount of Entry Fee .. £ 2 : 0 : 0 received by me,
 Special at *5/12/82* .. £ 15 : 0 : 0
 Certificate (if required) .. £ : : :
 (To be sent as per margin.)
 (Travelling Expenses, if any, £)

John Sturrock & Co. Surveyors
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.
 Dundee & London

Committee's Minute Tuesday, 5th December, 1882