

REPORT ON MACHINERY.

No. *8505*

Received at London Office *29th SEP, 1883.*

No. in Survey held at *Glasgow Port Glasgow* Date, first Survey *Sept 1882* Last Survey *Sept 25th 1883*

Reg. Book. on the *Iron Screw Steamer "Acanthys"* (Number of Visits *631.34* Tons *383.44*)

Master *not appointed* Built at *Port Glasgow* By whom built *Murdoch & Murray* When built *1883*

Engines made at *Glasgow* By whom made *David Rowan* when made *1883*

Boilers made at *"* By whom made *"* when made *1883*

Registered Horse Power *120* Owners *The Companhia Bernam-bucana* Port belonging to *Bernambuco*

ENGINES, &c. — *Iron Screw (Two pairs of Engines)*

Description of Engines *Compound Inverted Direct Acting*

Diameter of Cylinders *20 1/2 x 38"* Length of Stroke *27"* No. of Rev. per minute *110* Point of Cut off, High Pressure *1/6* Low Pressure *1/6*

Diameter of Screw shaft *4"* Diam. of Tunnel shaft *6 3/4"* Diam. of Crank shaft journals *4"* Diam. of Crank pin *1 1/4"* size of Crank webs *5 1/2 x 8"*

Diameter of screw *4 1/2 x 3"* Pitch of screw *12 x 6"* No. of blades *Three* state whether moveable *Solid* total surface *31.8 sq ft*

No. of Feed pumps *One* diameter of ditto *2 1/2"* Stroke *14"* Can one be overhauled while the other is at work *Yes fitted to each*

No. of Bilge pumps *One* diameter of ditto *2 1/2"* Stroke *14"* Can one be overhauled while the other is at work *Set of Engines*

Where do they pump from *All Compartments*

No. of Donkey Engines *One* Size of Pumps *4 1/2" cyl. 4" x 10" stroke* Where do they pump from *Sea Bilge & Hotwell*

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 *2 1/2" to each* Are they connected to condenser, or to circulating pump *To Circulating pumps*

How are the pumps worked *By Levers*

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 *Bilge pipes to Stokehold* how are they protected *By wood casing*

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 *Dry Dock Greenock*

Is the screw shaft tunnel watertight *Yes* and fitted with a sluice door *Yes* worked from *Upper platform*

BOILERS, &c. —

Number of Boilers *One* Description *Round Horizontal* Whether Steel or Iron *Steel*

Working Pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* Date of test *2nd July 1883*

Description of superheating apparatus or steam chest *None*

Can each boiler be worked separately *Yes* Can the superheater be shut off and the boiler worked separately *Yes*

No. of square feet of fire grate surface in each boiler *41 sq ft* Description of safety valves *Direct Spring* No. to each boiler *Two*

Area of each valve *21.64"* Are they fitted with easing gear *Yes* No. of safety valves to superheater *—* area of each valve *—*

Are they fitted with easing gear *—* Smallest distance between boilers and bunkers or woodwork *9"* Diameter of boilers *12 ft*

Length of boilers *16 ft* description of riveting of shell long. seams *Double riveted* circum. seams *Double riveted* Thickness of shell plates *28 1/2"*

Diameter of rivet holes *1"* whether punched or drilled *Drilled* pitch of rivets *4 x 1"* Lap of plating *10" x 9/16"*

Per centage of strength of longitudinal joint *45%* working pressure of shell by rules *80 lbs* size of manholes in shell *16" x 12"*

Size of compensating rings *Flat ring* No. of Furnaces in each boiler *One*

Outside diameter *3' 5"* length, top *6' 6"* bottom *through furnace* thickness of plates *7/16"* description of joint *Corrugated* if rings are fitted *—*

Greatest length between rings *—* working pressure of furnace by the rules *120 lbs* combustion chamber plating, thickness, sides *7/16"* back *—* top *7/16"*

Pitch of stays to ditto, sides *9 1/2 x 8 3/4"* back *top 9 1/2 x 8"* If stays are fitted with nuts or riveted heads *Nuts* working pressure of plating by rules *80 lbs*

Diameter of stays at smallest part *1 3/8"* working pressure of ditto by rules *108 lbs* end plates in steam space, thickness *23/32"*

Pitch of stays to ditto *15 x 16"* how stays are secured *by double nuts* working pressure by rules *84 lbs* diameter of stays at smallest part *2 1/4"*

Greatest pitch of stays *—* working pressure by rules *—* Diameter of tubes *3 1/2"* pitch of tubes *4 3/4"* thickness of tube plates, front *7/16"* back *7/16"*

how stayed *by tubes* pitch of stays *13 1/2 x 9 1/2"* width of water spaces *6"*

Diameter of Superheater or Steam chest *2' 6"* length *20' 6"* thickness of plates *7/16"* description of longitudinal joint *Double riveted* pitch of rivets *2 3/4"*

working pressure of shell by rules *—* diameter of flue *—* thickness of plates *—* If stiffened with rings *—*

Distance between rings *—* working pressure by rules *—* end plates of superheater, or steam chest; thickness *7/16"* how stayed *Stitch*

Superheater or steam chest; how connected to boiler *By two thick pieces*

DONKEY BOILER—

Description

Round vertical

Made at Glasgow

by whom made

Nicholson & Co.

when made

1883

where fixed

in Stothold

Working pressure

60 lbs

tested by hydraulic pressure to

120 lbs

No. of Certificate

1096

fire grate area

9 ft²

description of safety

valves

Direct Spring

No. of safety valves

One

area of each

7"

if fitted with easing gear

Yes

if steam from main boilers can

enter the donkey boiler

No

diameter of donkey boiler

4' 6"

length

8 ft 2"

description of riveting

Single & Double

Thickness of shell plates

3/8" Steel

diameter of rivet holes

3/4"

whether punched or drilled

Punched

pitch of rivets

1 1/2"

lap of plating

6 3/4"

per centage of strength of joint

40%

thickness of crown plates

3/16" Steel

stayed by

3 Stays 2" dia

Diameter of furnace, top

3' 6"

bottom

4 ft 2"

length of furnace

4' 6"

thickness of plates

3/16" Steel

description of joint

Lap

Thickness of furnace crown plates

3/16" Steel

stayed by

3 Stays 2" dia

working pressure of shell by rules

9 1/4 lbs

Working pressure of furnace by rules

62 lbs

diameter of uptake

11"

thickness of plates

3/16" Iron

thickness of water tubes

3/16"

SPARE GEAR. State the articles supplied:—

Two Propellers 4 Connecting Rod bolts with nuts
 2 main bearing bolts with nuts 5 shaft coupling bolts 1 set of lead & sledge pumps valves
 with seats 1 set of rubber valves 6 boiler tubes 20 condenser tubes 1 spring for each
 size of escape valves, an assortment of bolts & nuts (Iron & Brass)

The foregoing is a correct description,

David Moraw

Manufacturer.

General Remarks

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

These Engines & Boilers are
 of good workmanship & materials and are now in good order
 and safe working condition and eligible in my opinion to be
 noted in the Register Book. **Lloyd. M.C. 9/83**

It is submitted that this vessel
 is eligible to have the notification
 + 2 M.C. 9/83 recorded.

Q.
 B. 110 83

The amount of Entry Fee .. £ 2 : 0 : 0 received by me,

Special .. £ 18 : 0 : 0 Glasgow

Donkey Boiler Fee .. £ 0 : 0 : 0

Certificate (if required) .. £ 0 : 0 : 0 24/9/1883

To be sent as per margin.

(Travelling Expenses, if any, £ 15/6)

Committee's Minute

TUESDAY 2 OCTOBER 1883

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

James Morrison
 Clyde District
 Lloyd's Register
 Foundation