

# REPORT ON MACHINERY.

3237

No. in Survey held at Glasgow Date, first Survey 22<sup>nd</sup> Decr 1885 Last Survey 5<sup>th</sup> August 1886  
Book. 1 (Number of Vistas 14) Tons 428.84  
on the Screw Steamer "Clivia"  
Master John Glass Built at Belfast By whom built Worham & Clark When built 1886  
Where made at Glasgow By whom made Hutton & Corbett when made 1886  
Where made at " By whom made " when made 1886  
Registered Horse Power 95 Owners Colvils Lowden & Co Port belonging to Glasgow

Engines, &c.—  
Description of Engines Triple Expansion  
Diameter of Cylinders 15" 24" 40" Length of Stroke 33" No. of Rev. per minute 80 Point of Cut off, High Pressure 1/6 Low Pressure 1/16  
Diameter of Screw shaft 8 1/8" Diam. of Tunnel shaft 4 1/2" Diam. of Crank shaft journals 8 9/16" Diam. of Crank pin 8 9/16" size of Crank webs 6 1/2" x 9 1/2"  
Diameter of screw 11" 4" Pitch of screw 13 ft mean No. of blades 4 state whether moveable yes total surface 32.5 ft  
No. of Feed pumps One diameter of ditto 2 3/4" Stroke 18" Can one be overhauled while the other is at work —  
No. of Bilge pumps One diameter of ditto 2 3/4" Stroke 18" Can one be overhauled while the other is at work —  
Where do they pump from All compartments  
No. of Donkey Engines One Size of Pumps 8" x 4" x 10" Stroke Where do they pump from Lanks. Sea Bilges & Motwell  
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 3" Are they connected to condenser, or to circulating pump Circulating  
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  
Are the pipes 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  
Were stern tube, propeller, screw shaft, and all connections examined in dry dock On Slip before launching  
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 155 lbs Tested by hydraulic pressure to 310 lbs Date of test 5<sup>th</sup> July 1886  
Description of superheating apparatus or steam chest none  
Can each boiler be worked separately — Can the superheater be shut off and the boiler worked separately —  
Area of square feet of fire grate surface in each boiler 40 ft Description of safety valves Direct Spring No. to each boiler Two  
Size of each valve 4" 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 10" Diameter of boilers 12' 3"  
Height of boilers 9' 9" description of riveting of shell long. seams Double riveted circum. seams Double riveted Thickness of shell plates 1 1/16"  
Diameter of rivet holes 1 3/16" whether punched or drilled Drilled pitch of rivets 6 3/4" x 3 3/8" Lap of plating 19" x 1/16" Stagger  
Percentage of strength of longitudinal joint 82 working pressure of shell by rules 156 lbs size of manholes in shell 16" x 12"  
No. of compensating rings Doubling piece No. of Furnaces in each boiler Three  
Internal diameter 3 ft length, top 6' 9" bottom 9 ft thickness of plates 8 1/16" description of joint Corrugated if rings are fitted —  
Least length between rings — working pressure of furnace by the rules 166 lbs combustion chamber plating, thickness, sides 7 1/16" back 7 1/16" top 8 1/16"  
Size of stays to ditto, sides 4" x 4" back 4" x 4" top 4" x 4" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 157 lbs  
Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 190 lbs end plates in steam space, thickness 1 1/16"  
Size of stays to ditto 1 1/2" x 1 1/2" how stays are secured by double nuts working pressure by rules 150 lbs diameter of stays at smallest part 2 3/4" solid working pressure by rules 200 lbs Front plates at bottom, thickness 7 1/16" Back plates, thickness 1 1/16"  
Least pitch of stays 11 1/2" x 4" working pressure by rules 155 lbs Diameter of tubes 3 1/2" pitch of tubes 4 3/4" x 4 3/4" thickness of tube plates, front 1 3/16" back 1 3/16" how stayed by tubes pitch of stays 9 1/2" x 9 1/2" width of water spaces 6"  
Diameter of Superheater or Steam chest none length — thickness of plates — description of longitudinal joint — diam. of rivet holes —  
Size of rivets — 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 — how stayed —  
Superheater or steam chest; how connected to boiler —



## DONKEY BOILER—

Description

Round Vertical Cross tube

Made at Glasgow by whom made Hutson &amp; Corbett when made 1886 where fixed in St. Nicholas

Working pressure 80 lbs tested by hydraulic pressure to 160 lbs No. of Certificate 1428 fire grate area 12 ft<sup>2</sup> description of safety

valves Direct Spring No. of safety valves One area of each 4" if fitted with easing gear yes if steam from main boilers can

enter the donkey boiler no diameter of donkey boiler 5'0" length 9'6" description of riveting Double &amp; Single

Thickness of shell plates 9/16" diameter of rivet holes 13/16" whether punched or drilled Stilled pitch of rivets 3" lap of plating 1"

per centage of strength of joint 70 thickness of crown plates 1/16" stayed by Uplane + 6 2" dia solid stays

Diameter of furnace, top 3'8" bottom 4'5" length of furnace 4'6" thickness of plates 8/16" description of joint Lap single

Thickness of furnace crown plates 9/16" stayed by As above working pressure of shell by rules 87 lbs

Working pressure of furnace by rules 83 lbs diameter of uptake 12" thickness of plates 9/16" thickness of water tubes 6/16" 9 1/2 dia

## SPARE GEAR. State the articles supplied:

Two Connecting rod bolts + nuts top & bottom  
 Two main bearing bolts, One set Coupling bolts Three piston bolts + nuts  
 Half set piston Springs for each piston, One feed pump valve + one bilge pump  
 valve also donkey pump valve Two spare propeller blades, Assorted bolts nuts  
 Iron + c

The foregoing is a correct description,

Manufacturer.

## General Remarks

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

These Engines + Boilers are

of good workmanship + materials and are now in good order +  
 safe working condition + eligible in my opinion to be noted in  
 the Register Book. Lloyd's M.C. 8/86.

Showing of Boiler & other test Reports applicable to water pressure as well as this one  
 retained for guidance

It is submitted that this  
 vessel is eligible to have the  
 notification + done 8.86  
 recorded.

17/8/86

The amount of Entry Fee £ 1 : 0 : 0 received by me,

Special £ 14 : 5 : 0

Donkey Boiler Fee £ 0 : 0 : 0

Certificate (if required) £ 0 : 0 : 0 14/8/1886

To be sent as per margin.

(Travelling Expenses, if any, £ 8/-)

Committee's Minute

TUESDAY 17 AUGUST 1886

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

Clyde District

Lloyd's Register  
 Foundation