

Report of Survey for Repairs of Engines and Boilers.

No. 4910 Date, first Survey July 12th Last Survey July 4th 1879
 Reg. Book. Glasgow Survey held at Glasgow Master George G. G. G.
429 on the S.S. "Howard" Built at Glasgow When built 1871
 Tons 453 Owners Clyde Shipping Coy Port belonging to Glasgow Classified 100A1
769 Diameter of Cylinder 28 1/2" Engines made at Pitt Glasgow When made 1871-11m
 Length of Stroke 36" Pressure of Steam 40 lbs By whom made Blackwood & Gordon
 Registered Horse Power 120

Particulars of Repairs and Examination Engines and the whole of the Machinery
opened up and thoroughly overhauled. Pumps, pipes & hoses
examined, repaired & renewed where necessary. Stern tube & Propeller
overhauled and examined in Dry Dock.

To conform with the requirements of the Rules, the whole
 of the Sea Cocks, have now been moved from the flat of the
 vessels bottom and fitted on upper turn of bilge.

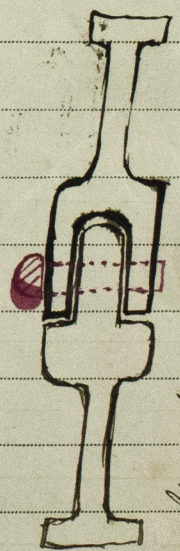
Boilers, New, (made of steel) as per Drawing submitted
July 27th 1879 with Particulars of Tests of Steel plates accompanying that letter.

The above repairs and alterations completed satisfactorily
 by Messrs Barclay, Curle & Co; and the steel used in the
 construction of the Boilers, tested according to the requirements
 of Circular No 394. also sample of Rivets for quality & shearing
 strength, particulars of which are appended.

The Machinery & Boilers are now in good order & safe
 working condition and eligible in my opinion to be noted in
 the Register Book (Lloyd's M.C. 4.79)

Tests of Steel Rivets

1 st Rivet		2 nd Rivet		3 rd Rivet	
Load in Tons	Depth	Load in Tons	Depth	Load in Tons	Depth
20 "	1/8"	24 "	1/8"	24 "	1/8"
22 "	3/16"	26 "	1/8"	26 "	3/16"
24 "	1/8"	28 "	3/16"	28 "	3/16"
26 "	1/8"	30 "	3/16"	30 "	3/16"
28 "	1/8"	31 "	3/16"	30 "	3/16"
30 "	1/8"	32 "	3/16"	30.6	broke
31 "	3/16"	32.5	broke		
32 "	broke				



Sketch of rivet
 for testing

The Amount of Fee ... £ 2 : 2 : " received by me,
 Certificate (if required) £ 3 : 3 : 0
 (Travelling Expenses, if any, £ 1 : 1 : 0)

Committee's Minute

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

Clyde District

This vessel has been fitted with new
 steel boilers built under the inspection
 of the Engineer Surveyors to the Society and in
 accordance with the Committee's requirements.
 The whole of the machinery has been
 thoroughly overhauled & repaired
 and the sea cocks are now
 fitted as prescribed by the
 Rules. Submitted that
 the vessel is eligible to
 be granted a Machinery
 Certificate from
 July 4 1879 and to
 be marked in the
 Register Book "Lloyd's MC 7.79"
 and Exp 79 (in red).

J. M. [Signature] 11/7/79

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