

# Report of Survey for Repairs, &c., of Engines & Boilers.

No. 20216  
 No. in Survey held at *Harcastle* Date, first Survey *16<sup>th</sup> Nov/86* Last Survey *1<sup>st</sup> April 1887*  
 Reg. Book. *542* on the Machinery of the *S.S. Charles Howard* (Number of Visits *5*)  
 Tonnage, Gross *1304* Built at *Sunderland* When built *1866* Year Month  
 Ditto, Net *849* Owners *A. Stuart* Port belonging to *Sunderland*  
 Diameter of Cylinder *27 3/4* Engines made by *Wineaid Donald & Co* When made *1877*  
 Length of Stroke *40* Boilers made by *Do* When made *1886*  
 Pressure of Steam *65 lbs* If Surveyed Afloat or in Dry Dock *Afloat Wallsend* Classed *90 H 1*  
 Registered Horse Power *120* (State name of Dock.)  
 Last Survey No. Port *3.86*

Particulars of Repairs and Examination *In accordance with the Secretary's*  
 (State clearly the cause of Repairs if any, and, in detail, the nature and extent of Examinations and subsequent Repairs. Repairs on account of Damage should be separated from repairs due to other causes. State also the dates and initials of any letters respecting this case.)  
*Letter dated the 19<sup>th</sup> of March relative to the Consumption of oil fuel.*  
*This vessel has been fitted to burn liquid fuel by Mr. Sartwell who informed me he had forwarded Sketches of the System to the London Office, the oil for consumption is carried in the ballast tanks & pumped from there into tanks in the tween decks known as the daily Supply tanks please see Sketch showing position of tanks forwarded with Ship Report No. 20216. The boiler is of the ordinary cylindrical multitubular type the bottoms of the furnaces being fitted with bricks & cement having two round apertures through which are inserted nozzles or directors the furnaces are divided longitudinally with brick partitions and a brick hood or corol built in each combustion chamber. compressed air is used to force the oil into the furnaces. the air is supplied by Westinghouse pumps the same as in use on locomotive engines. the pipes are so arranged that either steam or air may be used and superheated in the furnaces before being applied.*

General Observations, Opinion, and Recommendation: *The machinery of this vessel as far as seen is now in good order & safe working condition and eligible in my opinion to remain as classed.*  
 (State clearly what alteration, if any, is suggested to be made in the existing notation of the vessel's machinery in the Register Book, consequent upon this survey.)

*Exhaust Shaft Repat 1:8:7 See acct.*

or Registration Fee (per Sec. 27)	£ - - -	<i>received by me,</i> <i>12/15/87</i>
ry Fee (per Section 28)	£ - - -	
al Damage Fee (per Section 28)	£ - - -	
ificate (if required)	£ - - -	
iding Expenses (if chargeable)	£ - - -	

*Richard Hirst*  
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute  
 signed *Expende Class -*

THURS 21 APRIL 1887

Insert Character of Ship and Machinery precisely as in the Register Book. Report fees 14/4/87 sent to Lm 15/4/87