

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

(Received at London Office,

THURS 25 MARCH 1886

No. *993*
 No. in Survey held at *Cardiff*
 Reg. Book. *193* on the Machinery of the *Iron S.S. Dunbar (late Bar of the Sealers)*
 Date, first Survey *14th Sept 85* Last Survey *10th March 1886*
 (Number of Visits *21*)
 Tonnage, Gross *1813* Built at *Sunderland* When built *1876* 2.
 Ditto, Net *1182* Owners *J. & M. Gunn & Co.* Port belonging to *Cardiff*
 Diameter of Cylinder *26" x 58"* Engines made by *J. & M. Gunn & Co. Moe.* When made *1876*
 Length of Stroke *42"* Boilers made by *"* When made *1876*
 Pressure of Steam *75 lbs. sq. in.* If Surveyed Afloat or in Dry Dock *Mount Stuart* (State Name of Dock.)
 Registered Horse Power *170* Classified *90 A 11.84*
 Last Survey No. *8.84* Port *L.M.C.*

Particulars of Repairs and Examination Survey on account of Damage.

(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.)

The vessel having been sunk off Lundy Island on the 11th February 1885 was raised in August of same year and placed in Drydock on the 14th August 1885. The Machinery found completely covered with dirt and rust having been immersed nearly six months. The Engines have been entirely taken to pieces and refitted. cylinders covers removed for examination of cylinders, pistons, slider, faces, pistons rods, slider rods and carriages. The pistons taken to pieces thoroughly cleaned, adjusted and replaced. Crankshaft lifted, bearings cleaned and examined. Shaft carefully rebedded and closed up. connecting rods taken off, cleaned and replaced. Top and bottom end bearings refitted and cotter adjusted. Air and circulating feed and bilge pump plungers drawn, pump chambers and valves cleaned out and everything recoupled. Condenser doors taken off, tubes removed, condenser coated out tubes replaced and condenser tested with satisfactory result. All slide valve motions taken to pieces in shop, cleaned thoroughly overhauled and refitted. Tunnel thoroughly cleaned shafting and bearings examined and found in good condition. Steam tube drawn on account of repairs to steam frame, examined and refitted. Spare tail shaft fitted and shafting relined from crankshaft to tailshaft. Propeller secured in

General Observations, Opinion, and Recommendation:— The Machinery is now in good condition and safe working order and the requirements of the Rules for S.S. No. 3 now having been complied with this vessel is in my opinion eligible to remain as classed and to have the Certification *L.M.C. 3.86* recorded in the Register Book.

Office or Registration Fee (per Sec. 27) £ *2* : - : -
 Survey Fee (per Section 28) £ *10* : *10* :
 Special Damage Fee (per Section 28) £ - : - :
 *Certificate (if required) £ - : - :
 Travelling Expenses (if chargeable) £ - : - :

received by me, *24/3 1886*

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

Committee's Minute *FRIDAY 26 MARCH 1886*

Assigned *L.M.C. 3.86*



Lloyd's Register Foundation

in a satisfactory manner. All sea cocks on ship's side taken out, overhauled, ground in and refitted to new plating. All bilge- and tank suction pipes repaired and renewed where required. Two cocks in storehold for filling the high tank in fore hold by donkey pump fitted with non-return to prevent possibility of the tank being filled by mistake. All valve suction boxes opened out, examined, valves ground in and closed up. Main injection and main discharge pipes repaired and partly renewed. Main steam pipe overhauled and repaired. Feed valves, blow off cocks, water gauges, main stop valve taken off the boiler, cleaned, overhauled and refitted.

Main boiler and donkey boiler examined internally and externally. Main boiler: Four defective stays in steam space disconnected and replaced by new ones. $2\frac{1}{2}$ " thick and secured with nuts. Doubling plates riveted to the upper part of both end plates. Three new angle bars 10 feet 6 inches long and $5\frac{1}{2}$ " x $3\frac{1}{2}$ " x $\frac{5}{16}$ " riveted to boiler crown to take 9 vertical stays $1\frac{3}{4}$ " thick from top of Combustion Chamber to top of shell, secured with double eyes and pins. Four additional stay stays fitted to flat surface of top of Combustion Chamber, and also four angle iron $3\frac{1}{2}$ " x $3\frac{1}{2}$ " x $\frac{5}{16}$ " six doubling plates fitted to top of shell where the plating was found pitted. Twenty new screw stays $1\frac{3}{4}$ " thick fitted to bottom of Combustion Chamber. One small patch with new stay fitted to port furnace aft. Two butt straps cut off and renewed by new ones. A large number of rivets in boiler shell cut out and renewed. Thickness of plating in shell, furnace and Combustion Chamber ascertained by drilling and found satisfactory. Boiler tested by hydraulic pressure to 140 lb p. sq. inch. Safety valves taken to pieces and found in good condition. Safety valves seen under steam, blowing off at 57 lb p. sq. inch.

Donkey boiler: New furnace fitted. Steel plate $\frac{7}{16}$ " thick boiler almost intact. Five new gusset stays fitted to end plates and shell and four additional stays to top of Combustion Chamber and back plate. 150 new screw stays fitted $1\frac{3}{8}$ " thick and a new plate in dome. Boiler retested to 115 lb p. sq. inch. Safety valve overhauled. Safety valve loaded to 50 lb p. sq. inch.

The Engineer tried under steam with satisfactory result.

A. E. Heydell



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