

# Report of Survey for Repairs of Engines and Boilers.

No.

No. in Reg. Book. Survey held at

284 on the

Deptford

S. S. "Viggo"

Date, first Survey 23<sup>rd</sup> Feb<sup>r</sup>

Last Survey 24<sup>th</sup> Feb<sup>r</sup> 1876

Tons

582  
818

Owners General Steam R. Coy.

Port belonging to

London

Classed

Years assigned.

Character in Register Book.

100 A 1  
12.70

Diameter of Cylinders 45 1/2

Length of Stroke 54

Engines made at

Dundee

When made

1870

Pressure of Steam 45 lbs per sq inch

Nominal Horse Power 260

By whom made

Gardner Brothers

Particulars of Repairs and Examination. The Engines and Boilers of this Vessel have undergone a General examination.

The Engines are 2 cylinder compound of the Inverted Beam type, cylinders steam jacketed with receiver round H. P. cylinder, this H. P. cylinder is slightly scored, Low pressure cylinder flawed and patched near steam ports, the whole depth of cylinder, these flaws were discernible have not extended, and patches are in good condition, cylinders face & Piston packings leaky between steam ports.

Throttle Valve leaky, an extra relief cock 3 1/2" dia has been fitted this time, a receiver, to keep down and relieve pressure quickly when Engines are standing under steam, which will enable them to be easily started.

Land starting Gear has been overhauled and Reel Whels rekeyed, Air, Circulating, Fuel, Bilge, and Donkey Pumps overhauled, "Sea & Bilge connections" are fitted in accordance with Society's Rules, "Blow off Cocks" at "Level" of Stoke hold plates, Brine, Donkey Sea. & ash cocks "below" Stokehold plates on Ships Bottom.

Boilers and Superheater thoroughly examined, Boilers are two in number, "Cylindrical double ended", main cylindrical shells along bottom of both Boilers have patches ranging from 2 feet to 3 feet 8 inches long over circumferential seams, secured by Bolts 3" clear of Laps. These patches are leaking slightly. These defects are caused by unequal expansion between bottom and top parts of Boiler, and can be remedied by heating water in Boiler Bottoms when raising steam, by a communication from Donkey Boiler. Furnace, Back & Tube plates in good Condition. (24) Tube plate stay nuts renewed where burned, 70 Tubes renewed, (8) Tubes at Wings near furnace ladders out and

The Amount of Fee ... £ 2. 2. 0 received by me,

Certificate (if required) ... £

(Travelling Expenses, if any, £)

Committee's Minute

18

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

G. W. Munn



Lloyd's Register Foundation

(Condition of Engines and Boilers, and subsequent Repairs and Examinations, to be clearly stated.)

(The Surveyors are requested not to write on or below the space for Committee's Minute.)



holes in tube plates stopped. Top plates of combustion chambers in Starboard Boiler are Bulged downwards, to the extent of  $5\frac{1}{8}$ " in midship bay, and  $1\frac{1}{2}$ " out mmf from original position, this damage occurred during the first 6 months running, and was caused, by shortness of Water on these plates, and the dogs which supported them being too short, now longer, & stronger <sup>dogs</sup> mmf. Bolts were fitted, since that, these plates have remained in position, no cracks or flaws at Bonds are discernible.

Front-Shell plates round Feed entrance of both Boilers have been patched this time, plates being deteriorated by action of Feed Water.

Superheaters Two in number are cylindrical, with Flat, stayed ends, lying horizontally above both Boilers across ship, 5 feet,  $6\frac{5}{8}$ " internal diameter & 15 feet in length. Shell plates originally  $\frac{1}{2}$ " thick, single Lap rivetted with  $\frac{3}{4}$ " rivets, 2" pitch, these superheaters have two division plates at right angles to their axis, between these two plates, at middle, on top, and across, for about  $\frac{1}{4}$  of circumference, they are deteriorated by corrosion generally, and grooved out joints circumferentially, to one half their original thickness. Stays longitudinal are reduced at middle, from  $2\frac{1}{4}$ " to  $1\frac{1}{2}$ " dia. The outside of these plates at midship are exposed to the heated Gases from furnaces, for about one half of circumference of superheaters.

Safety Valves and stop valves steam Whistle and Telegraph in good working order.

The working pressure has been reduced this time on account of Weakness of Superheater from 55 to 45 lbs pressure per square inch.

The machinery of this Vessel is in fair working order and safe condition, but I consider only eligible, to retain the figure 1 in the register Book subject to examination at the end of Six Months,

G. W. Manuel